A W. R. D. Smith publication FIFTY CENTS

Textile Industries

Formerly "COTTON"

MARCH 1960

Now it's automation in size preparation
page 80

How to make and use Taslan textured yarn
page 84

Comber lap preparation decides noil and yarn properties
page 98

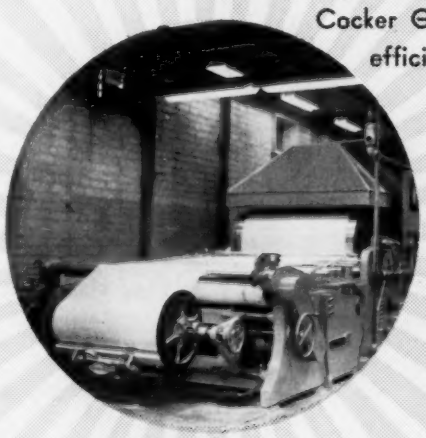
Gauges in Draper loom maintenance
page 94

Simple quality check for seamless mills
page 137

Now it's 70

62 Cocker GH Slashers have been installed since this machine was introduced late in 1958, and 8 more will be in operation shortly. More are on order.

Cocker's simple and trouble-free GH Drive ★ the complete elimination of projecting spindles ★ rugged construction ★ quiet operation ★ the Cocker Compensating Beam Drive which puts 20% to 25% more yarn on loom beams ★ and the new highly efficient **DA** Size Box, are a few of the Cocker GH Slasher's valuable advantages. High production rates with improved moisture regain and better size pickup and penetration make the Cocker GH Slasher the most efficient and economical in the World.



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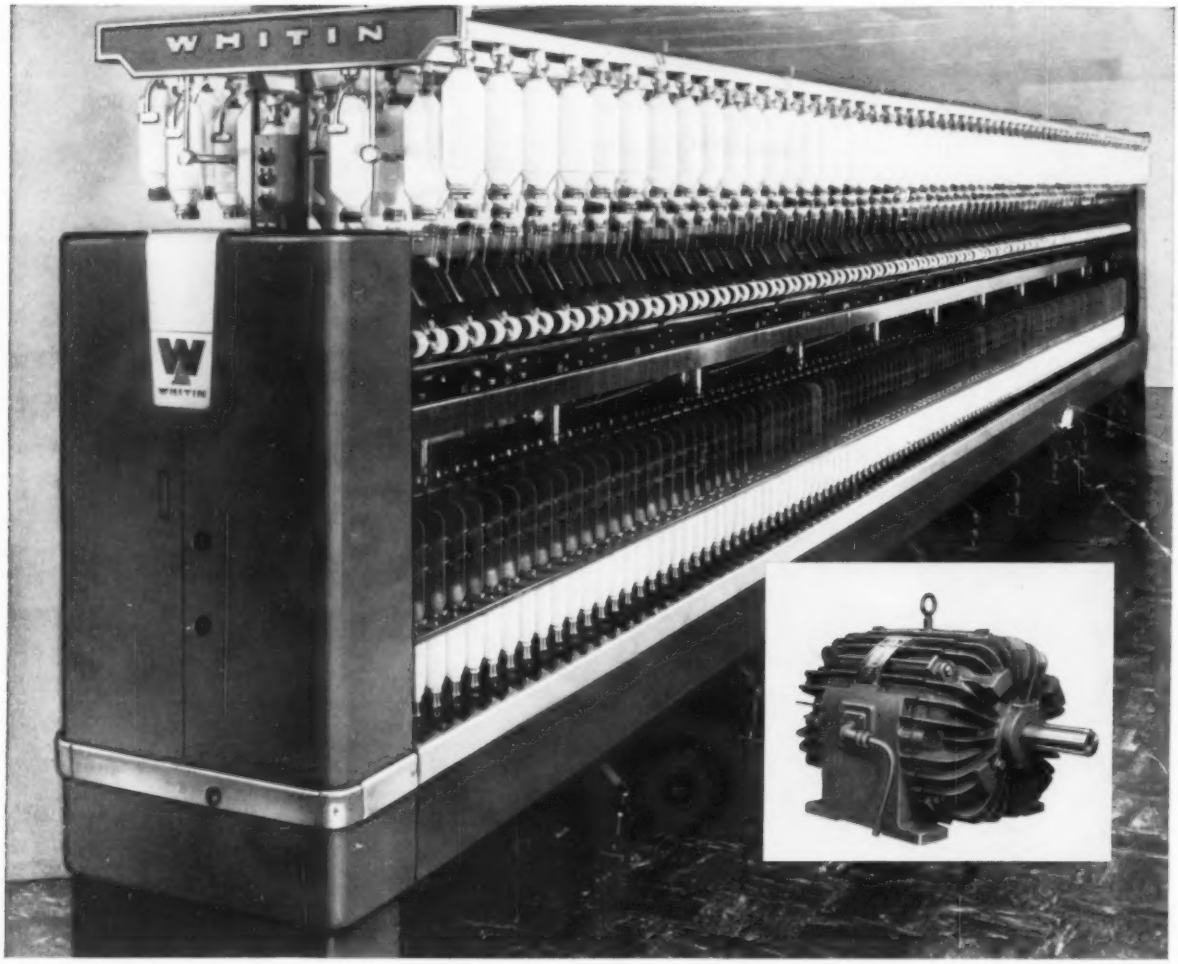
Next month: Two special features—Knitting and Tufting



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Described as "the world's most advanced spinning frame," the new "Piedmont" recently announced by Whitin Machine Works, Whitinsville, Massachusetts represents an investment of over a million dollars in research and tooling, and incorporates a score of innovations designed to achieve maximum operational efficiency and productivity in combination with attractiveness in appearance.

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Textile Industries

Formerly "COTTON"

MARCH 1960 VOL. 124, NO. 3

CONTENTS

MANAGEMENT

123 **Textile research achievements in 1959**

This concluding installment of J. B. Goldberg's annual review of the year's advances in textile technology and science covers wet processing and new developments in fabrics.

COTTON AND MAN-MADE FIBERS

77 **Better yarn for less money**

That's the result of recent improvements in machines and processing methods for rayon staple at Belmont Mills No. 1.

80 **Now it's automation in size preparation**

From railway car to slasher, Russell Manufacturing Co.'s size preparation from thick-boiling starch is automatic and unattended.

84 **Taslan textured yarns**

How Taslan is made, how it's processed, its styling and end-use possibilities.

94 **Gauges in Draper loom maintenance**

The use of loom gauges in the mill. Part 3—More on influence of bad alignment on shuttle wear.

98 **Lap preparation decides comber noil and yarn properties**

A study of 72 combinations of preparation method, lap weights, and comber feed yielded data on per cent noil and yarn strength.

111 **And now a water-jet loom**

Jet of water carries filling through the shed in a loom now in commercial production at a mill in Czechoslovakia.

WET PROCESSING

90 **How much will CM cotton cost?**

Preliminary study of the manufacturing and chemical costs of partially carboxymethylating cotton yarns and fabrics.

108 **Every 5th fuel dollar saved**

Recovering dyebath heat saves 20% on fuel, 10% on process time at Minette Mills.

WOOL

103 **What's new in carpet Jacquards**

Now they break away from the usual single-shot lift.

CONTINUED ON NEXT PAGE ▶

Textile Industries

KNITTING

137 **Simple seamless quality test**
How a veteran knitting department head keeps tab on goods produced.

GENERAL AND TECHNICAL

67 Tips for tariff witnesses
75 Must warp sizing be edible?
78 Sees continuation of upturn in cotton finishing
78 Meet these suppliers at the Atlantic City Show
93 Shifts in wool fabric weights and constructions
102 Noncellulosic-fiber capacity to increase 27% by 1961
121 Electricians may prevent your next fire!
133 Machine measures fiber length in tops, makes diagram
147 Hosiery men urged to make reservations promptly
149 Ways to prevent oil stains in cloth
151 Is the throwing process doomed?
153 About those cards with two sets of flats
153 Resin padding methods
154 Use cards to match yarn colors
154 Competitors set quality control pace
155 "Why we spin on the heavy side and like it"

DEPARTMENTS

12 Shorts and remnants
44 Personal notes
61 News in brief
71 Technical developments
73 Future events
75 Executive views
149 How others manage
157 New product parade
176 Free booklets
186 Mill notes
189 Supplier notes
195 Advertiser's index

NEXT MONTH

■ TEXTILE INDUSTRIES for April will spotlight knitting and tufted textiles in two special features. Other highlights will include Part 4 of "Gauges in Draper Loom Maintenance;" details of SRRL's new carding cleaner, which makes clean laps from roughly harvested cotton at full picker production; and an article on how baseballs are made—just in time for the opening of the baseball season.

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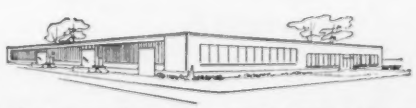

Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

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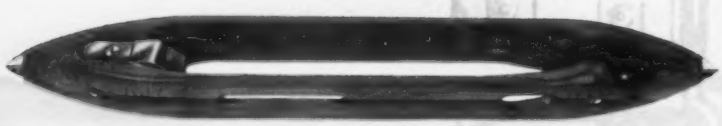

The hardest working equipment on your looms MUST be the very BEST QUALITY . . . the kind of dependable quality you get only with Southern Products.

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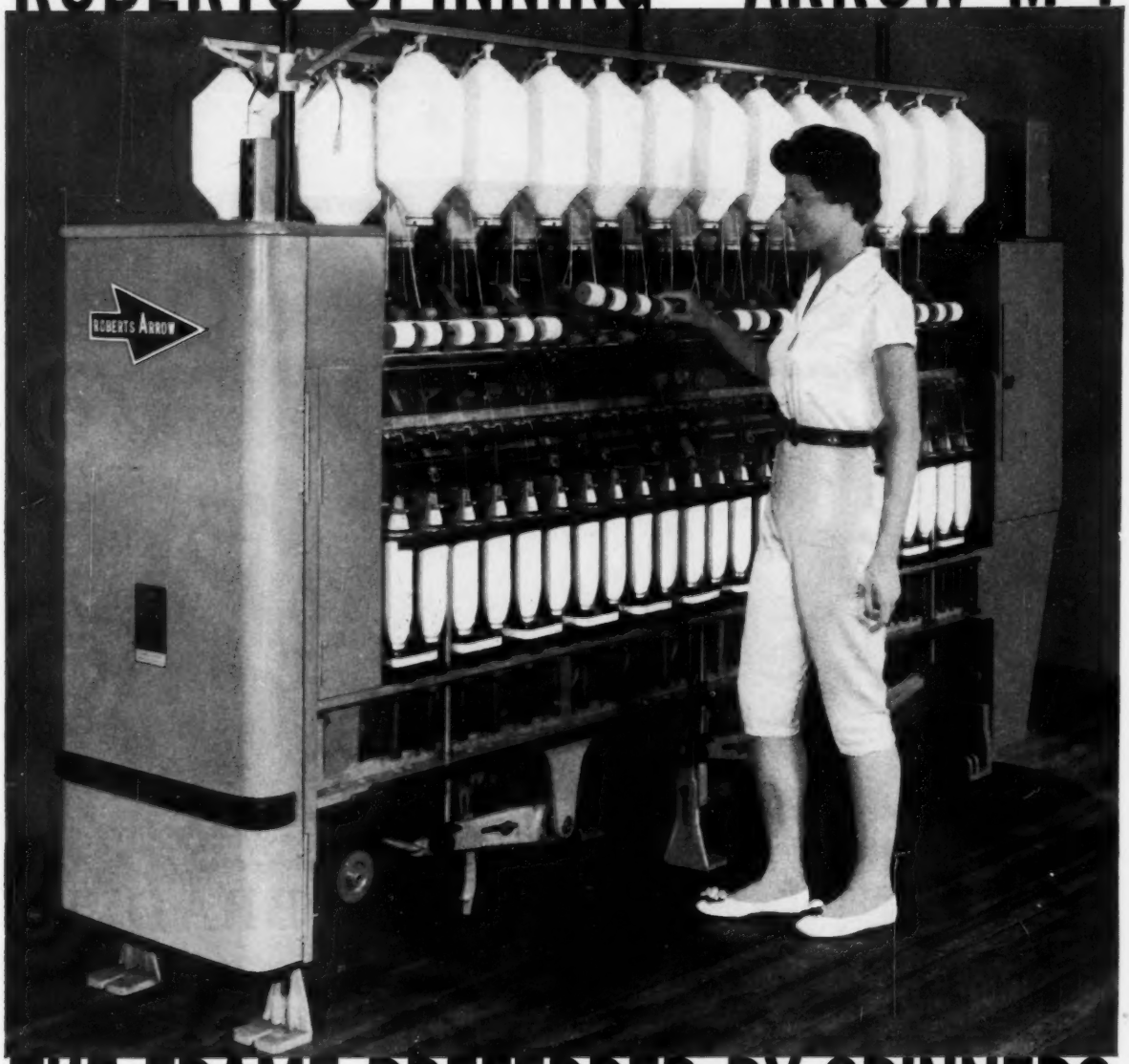

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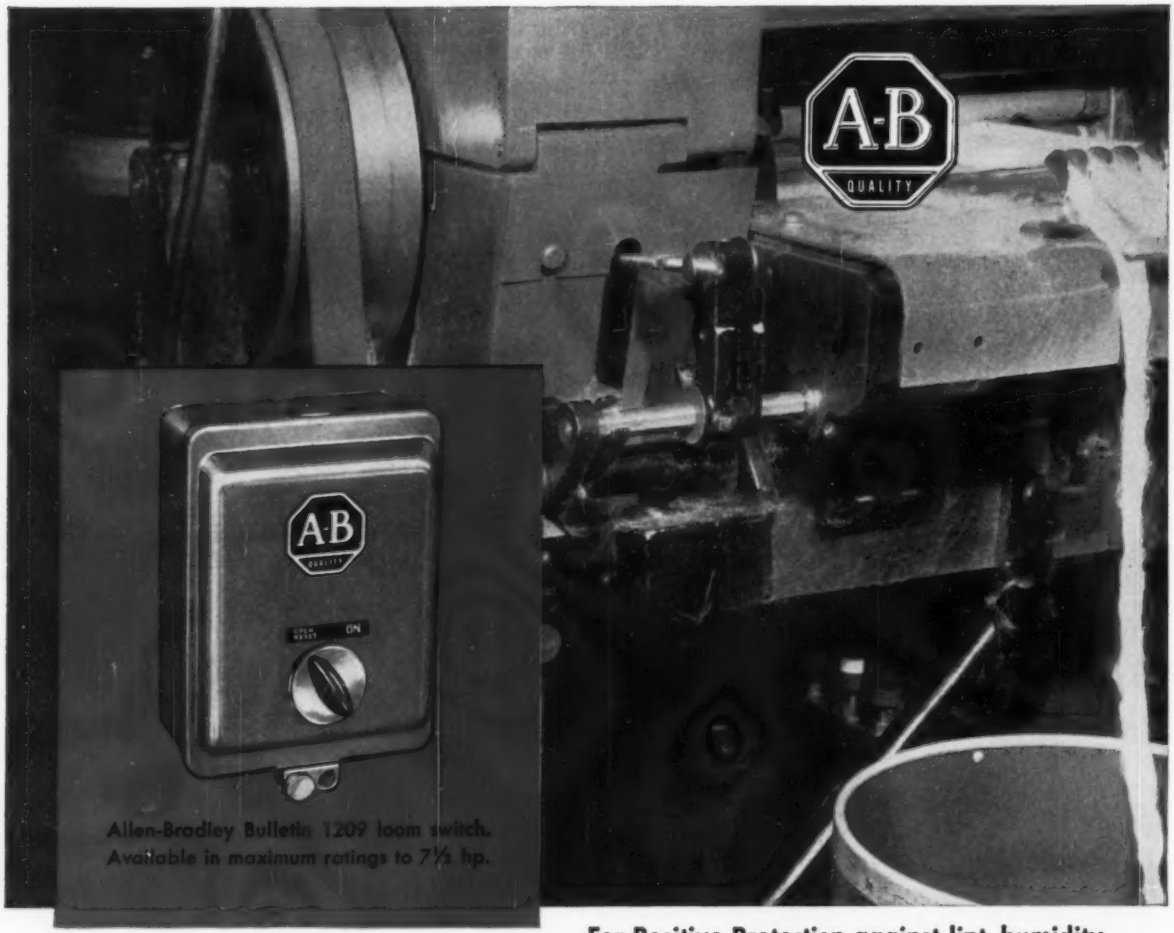

Allen-Bradley Bulletin 1209 loom switch. Available in maximum ratings to 7½ hp.

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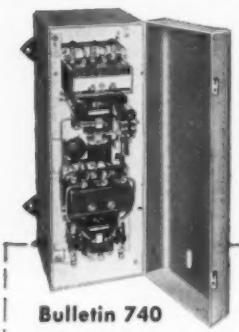

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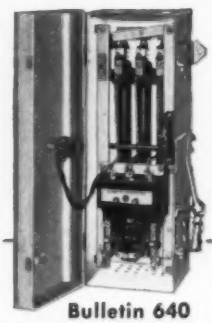

Bulletin 640

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Automatic Across-the-Line Starter—Bulletin 709 solenoid starter with accurate overload protection.

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The special enclosures of A-B Bulletin 1209 switches are lint-tight to prevent fire hazards, and finished in heavy, baked enamel to provide lifetime resistance against corrosion in atmospheres of extreme humidity and high temperature. Write for complete details, today.

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...in Jack Spool Design

Lestershire's New High Capacity "L E" Revolutionizes Jack Spool Efficiency

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The new "L E" makes possible truer running speeds because of a readily demountable head, lighter weights, plus spool *rigidity* with *resilience*.

Typical of "L E" 's new engineering is an important new head design, introducing a ½" thick Vulcanized Fibre insert riveted to the inside of the spool head conforming to the inside of the aluminum barrel. This improvement serves two important functions: (1) acts as a locator (2) serves as a shock absorber, maintaining the tightness of the spool yet providing a resilience that absorbs sudden shocks, bangs, bumps and drops without *loss of spool concentricity*.

The new Lestershire's "L E" is typical of the spool and bobbin advances continually offered by Lestershire—the broader choice of materials, craftsmanship, plus unexcelled laboratory, engineering, production and testing facilities.

Write for your free copy of "Lestershire Bobbins"—a comprehensive catalog on modern spool and bobbin design. Address Dept. V-3.

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SHORTS & REMNANTS

► Collecting mixed metaphors is one of our more passive hobbies. The best one we've added to our collection lately came from Earl Kintner, chairman of the Federal Trade Commission. Commenting on the FTC's campaign to clean up fraudulent practices in television, he vowed, "We're going to keep the spigots on until we stamp this thing out."

Politicians are far and away the best source for well-mixed metaphors, but it was a five-star admiral who said this during World War II: "What the Japanese people are now hearing is only the distant rumbling of the handwriting on the wall."

But it was a politician who got off this gem: "This is a deliberate attempt by the Democrats to throw up a dust cloud when they know their ship is sinking."

We'd like to hear from readers who have favorites of their own.

Satirist Satirized

"We can understand Mr. Liske being moved to satire [S & R for January, pp. 6-8]. We would be worse if we were fated to spin and weave our lives in Yankeeland. Likely, it is not the textile industry that has caused such a state of mind. Probably a simple matter of geography.

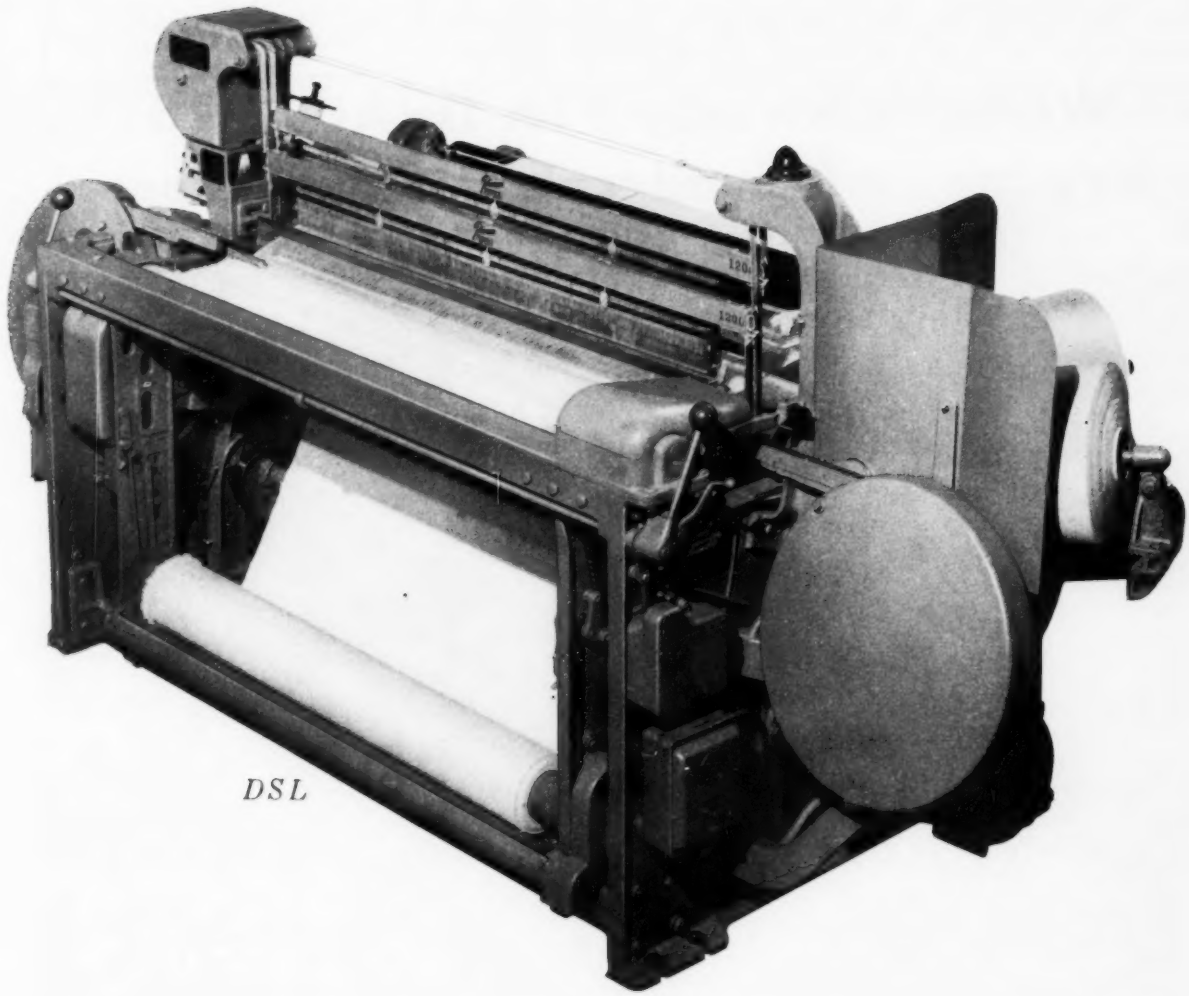
"Begging Mr. Liske's pardon, we have taken the liberty of offering a parody on what he calls satire, and invite him to come South. After all, it is inevitable: Cotton is moving West; cattle are moving East; industry is moving South; and the disgruntled are moving North. Southerners are staying home, because they know a damned good place when they see it."

If I were young again
There is one thing you can bet:
In spite of all the pain
I would enter textile's net.

My clothing has been fine,
And plenty for each season.
Even with all the slubs and gouts,
Regular meals have never been in doubt.

I have flown in the stratosphere
And found minds pure and bold.
I've found challenge to the intellect,
And hearts of purest gold.

Continued on page 16



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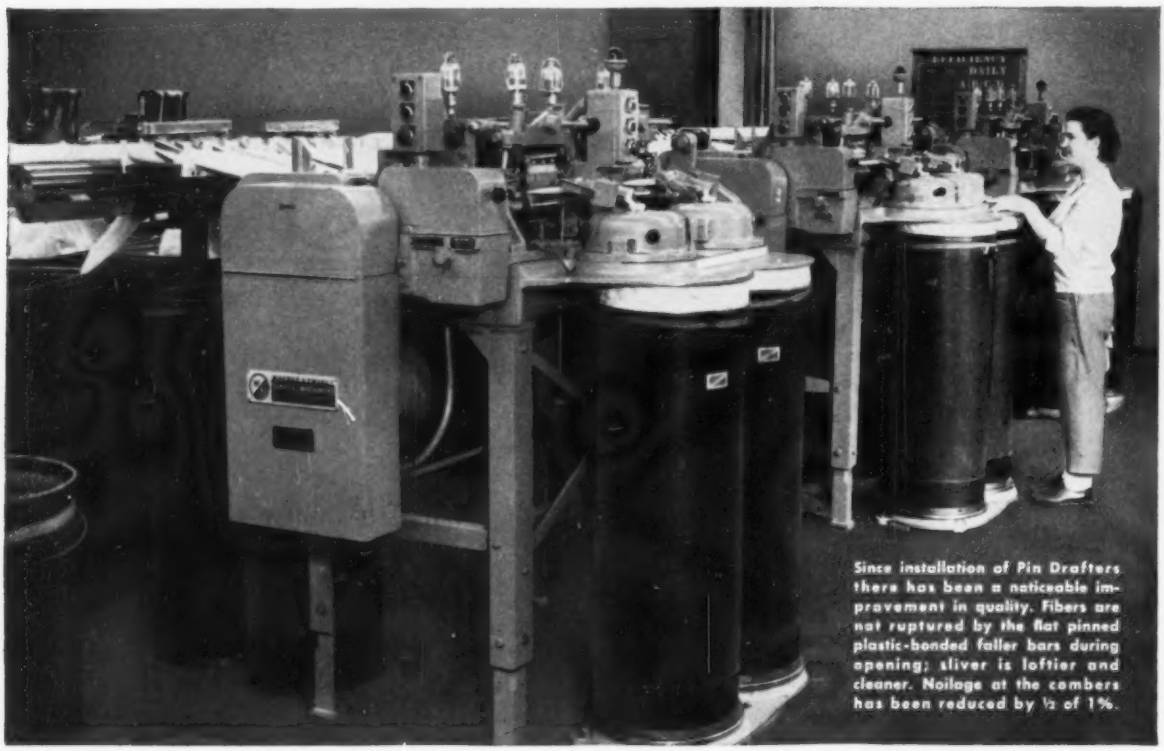
American Textile Machinery Exhibition - International
Parade of Progress
ATLANTIC CITY, U. S. A. MAY 23-27, 1960

At Wellman Combing Company—

Warner & Swasey® PIN DRAFTERS key factor in modernization program

• Reduced costs • Improved product quality



Since installation of Pin Drafters there has been a noticeable improvement in quality. Fibers are not ruptured by the flat pinned plastic-bonded faller bars during opening; sliver is loftier and cleaner. Noilage at the combers has been reduced by ½ of 1%.

TO GEAR UP for inevitable keener competition, Wellman Combing Co. of Johnsonville, South Carolina, asked themselves, "How can we remain competitive, yet still operate to the best advantage of our customers?"

Due to rising costs of raw materials, equipment and labor, this progressive and long time top maker felt they had to immediately replace their obsolete and less productive machinery—to control certain of their manufacturing costs, while improving product quality.

To modernize their French system, Warner & Swasey PIN DRAFTER Intersecting Draw Frames were installed. Now, Wellman gets equal production with fewer machines—both operators and required floor space have been reduced 50%. They knew from a previous experience that with Pin Drafters general maintenance was less—and substantial savings would be realized because of fewer required faller bar and cot repairs.

For the Pin Drafter Story on cutting costs, speeding production and improving product quality in your own mill, call your Warner & Swasey Field Representative, today.

®Reg. U. S. Pat. Off.

SALES OFFICES

Main Office and Factory: 5701 Carnegie Ave., Cleveland 3, Ohio
P. O. Box 215, 20 Chestnut Street, Needham 92, Mass.
P. O. Box 4000, 624 Pecan Avenue, Charlotte 4, N. C.
Suburban Square Bldg., Ardmore (Philadelphia), Pa.

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

ALKASTEEM & OX-GEM

prevent corrosion in boilers and return lines

ALKASTEEM

ALKASTEEM would have neutralized the carbonic acid which caused corrosion in this section of a condensate line shown in the top photograph.

OX-GEM

OX-GEM, an efficient oxygen scavenger in dry form, would react with dissolved oxygen in boiler water to prevent the pitting caused by this gas. As metal was eaten away in the above section of pipe it followed the water flow to accumulate elsewhere, thus causing a double damaging effect.

save expensive replacements

You can stop the corrosion in boilers, steam lines, steam traps, valves, unit heaters and return condensate lines. Corrosion is frequently caused by dissolved gases such as carbon dioxide and oxygen. When these gases occur in combination the rate of corrosion is greatly increased. If corrosion is allowed to go unchecked the result, of course, is costly shut-downs for repair and expensive replacements.

Throughout the South, hundreds of engineers rely on ALKASTEEM and OX-GEM and the counsel of Anderson's field service representatives to check these corrosive gases. The life of equipment is prolonged and the operating efficiency of your system is increased. The Anderson man is a good man to know.

FREE SURVEY AND ANALYSIS SERVICE

Anderson Service Representatives will be glad to discuss your particular water problems and make recommendations based on an analysis of the makeup water. There is an Anderson representative in your area who will gladly work with you. His services cost you nothing. They can save you much.

Write, Wire or Phone

SPECIALISTS IN MAKING WATER BEHAVE

Anderson Chemical Company, INC.

Macon, Ga., Box 1424 • Phone Sherwood 5-0466

Memphis, Tenn.: Box 2432, DeSoto Station • Phone: BRoadway 2-2806

WHEN THE RECEPTACLES ARE KENNETT, PROCESSING COSTS GO DOWN! . . .

The reasons are simple. Kennett Receptacles handle delicate yarns and fabrics more gently—cut loss from damaged yarns and fabrics. Kennett Receptacles last longer—save on replacement costs. And Kennett Receptacles are easier to handle—speed your processing.

Kennett Receptacles can be slammed, banged, dropped and manhandled in a mill for years. Yet their glossy-smooth surface doesn't crack, splint, crush or splinter. They're made of tough, lightweight National Vulcanized Fibre, a *plastic* that has never been equalled for containers in the textile industry.

Standard Kennett Receptacles are available in a huge range of styles and sizes, covering every ordinary need in textile processing. Special requirements are often filled with only a slight modification of a basic Kennett style. And all Kennett products are backed by National's years of experience and proved dependability. For full information contact your nearest National sales office. Or write direct for our full line folder. Address Dept. W-3.

KENNETT
RECEPTACLES BY
NATIONAL
VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

SHORTS & REMNANTS

(from page 12)

There is a textile worker's heaven,
In spite of six and seven.
In textile mills are people
Willing to help you climb life's steeple.

When you engage in satire,
And become tired of the textile game,
Please plan to retire—
You have only yourself to blame.

JOHN M. CAUGHMAN
Spartanburg, S. C.

Going to Atlantic City?

Are you going to the American Textile Machinery Exhibition-International, in Atlantic City, N. J., next May 23-27, that is? These two gentlemen are planning to go:

That's **Frank Guest** on the left and **George Dockray** on the right. They're a couple of the editors of this journal. When this photo was made they were planning TI's special Atlantic City Show issue, which you will receive about the 1st of May.

Frank is pointing out on the chart the location of TI's booth at the Show—No. 415-416, on the Boardwalk Level. Drop by to see us while you're there.

If you haven't already made your hotel and travel reservations, we suggest that you do it *now*. They may be hard to get right before Show time. If you don't have a hotel reservation form, you'll find instructions on where to get one on page 61.

Fan Mail

"Just a note to tell you that we not only enjoy TEXTILE INDUSTRIES and find it very helpful but that each copy is read by about fifteen of our supervisors."

A. J. MAINO
V-P, Neisler Mills
Kings Mountain, N. C.

No Money in Textiles

We constantly hear textile executives talking "poor mouth," so it was with some astonishment that we read in the New York *Herald Tribune* recently of the burglary of a Park

The ALDRICH *Synchronized Single Process* Picker...

A BIG HELP TO BETTER YARN

For uniform yarn, the modern mill with few doublings, and long drafts, needs very uniform picker laps. These laps must be uniform inch-by-inch. The yard-by-yard variation of the laps has no effect whatever on the evenness of the yarn from yard to yard. One yard of average picker lap makes about seven or eight miles of 20's yarn, and the short-term variation in this yarn cannot be affected by the variation between one yard of lap and another.

It is the short-term variation in the lap that counts. A smooth, well felted lap makes more uniform card sliver than a lumpy lap.

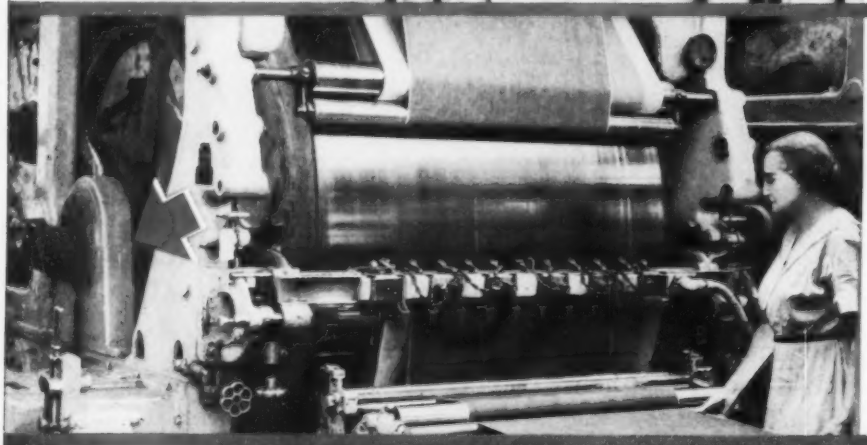
The Aldrich Synchronized Single Process Picker makes a lap out of a lap instead of from a box full of loose, irregularly lumped cotton. This principle of making the lap out of a well felted lap assures more uniform inch-by-inch weight in the finished lap, and more uniform sliver, roving and yarn.

AldricH MachinE WorkS
Greenwood, South Carolina

SPINESSO® OIL

assures clean spindles

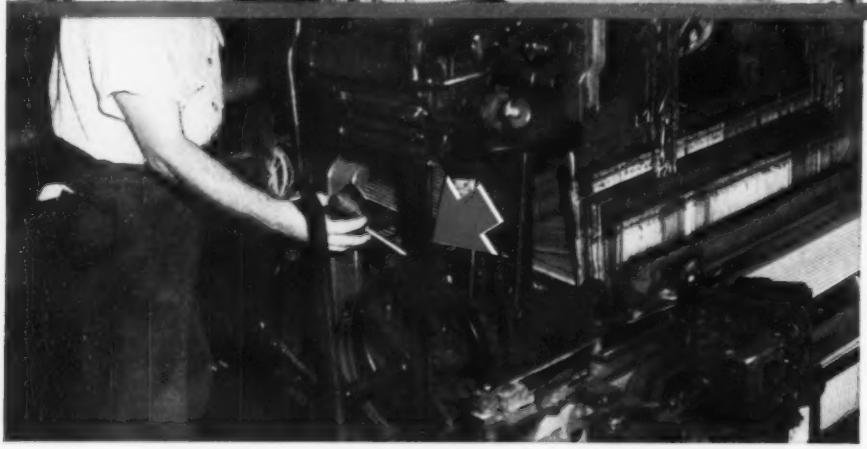
Specially made for high-speed spindles, assures efficient gum-free operation, provides instant lubrication during critical warm-up periods.



NEBULA® EP

multi-purpose grease

Lubricates steam-heated can bearings and other "hot spots." Stays on the job under high temperatures; provides outstanding extreme pressure lubrication for textile machine-bearings and gears.



EPIC® LUBRICANTS

save oil and time

Frequency of oiling loom parts is reduced because these lubricants stick tightly to metal... reduce stains... save labor.

WEAVING PROFITS WITH ESSO LUBES

Labor, time and machine-saving Esso lubricants like those above can help cut your lube and maintenance bill. Why not investigate the complete line of Esso textile machine lubricants. Contact your local Esso office or write Esso Standard, Division of Humble Oil & Refining Company, 15 West 51st Street, New York 19, New York.

ESSO

In industry after industry..."ESSO RESEARCH works wonders with oil"

Lacquer-tipped cone inspection at Sonoco.

Lacquer-tipped cones—another Sonoco "first"

The first lacquer-tipped cone was developed by Sonoco more than 25 years ago. It provided a new and improved method for yarn identification and gave the industry a smooth, hard nose surface for better yarn processing.

Perfecting the Sonoco lacquer tip required ingenious research and skilful experimentation. Special machinery has been designed and built for its economical production—continuous research maintains its quality.

Sonoco lacquer-tipped cones are typical of the dependable products manufactured by a fully integrated company with 60 years' experience in creating and producing all types of textile paper carriers. Only Sonoco, in its field, provides the necessary knowledge, skill and capacity to meet the ever-changing techniques of the textile industry. Let Sonoco experience help you!

SONOCO

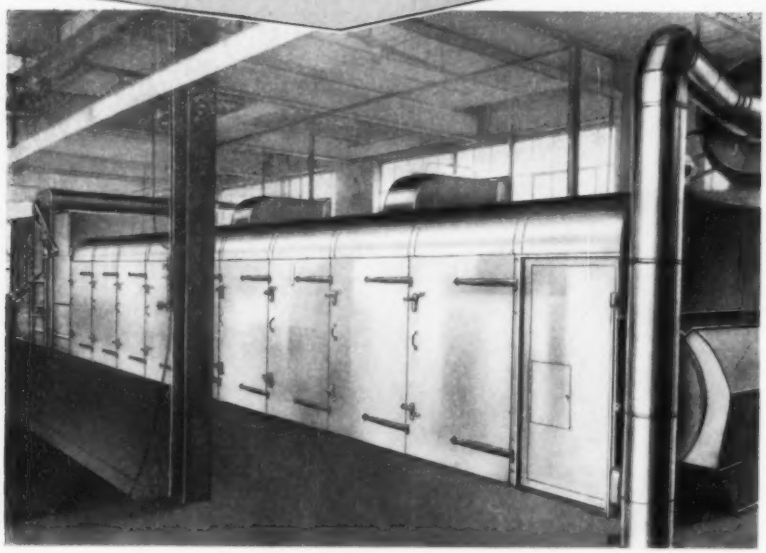
Products for Textiles

SONOCO PRODUCTS COMPANY

ATMA
American Textile Machinery Exhibition - International
Booth Nos. 82 and 83
May 23-27, 1960

Main Office—Hartsville, S. C. • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Cal. • Fremont, Cal. • Atlanta, Ga. • Granby, Quebec • Brantford, Ontario • Mexico, D. F.

How to Cut Costs in Fibre Processing



The SARGENT System...

Fully Automatic Handling of Natural and Synthetic Staple from Dye Kettle or Washer to Card.

Delivers uniformly dried, lofty stock at high volume rate. Releases manpower for other work. Better than 1,000 lbs. per hour produced continuously, day in, day out. Installations have cut processing costs better than one-third.
This highly efficient, economical Sargent-designed system has only five units:

1. Rotary type Wet Feeder takes air-blown wet fibres from the dyehouse, feeds them to squeeze roll machine. Has ball-bearing main cylinder with stainless steel teeth, a rotary comb, two heavy rubber aprons — one to feed fibre to main cylinder, the other to deliver fibres to nip of squeeze rolls.
2. Extractor has sectional rubber ring roll, hammered steel bottom roll with fine knurl. Pneumatic loading, two air cylinders, control panel and indicating dial. Working at 80 lbs. pressure estimated air consumption is 4 cfm.
3. Stock Fan and Cyclone Condensor. Stock fan takes fibres from extractor, delivers them to cyclone condensor mounted above hopper of dryer feed, opening fibres and conditioning them for even, smooth delivery to dryer.
4. Rotary Feeder delivers even layer of fluffed fibres to dryer conveyor. Designed to effect a semi-combing action, eliminating matted bunches for more uniform drying, fewer neps at card.
5. Dryer with Blow-Up Section. Air-flow is down through traveling stock, with up-draft at blow-up section, midway of dryer. A highly efficient way to redistribute fibres evenly over stainless steel perforated flight conveyor and to even out moisture content of all fibres. Equipped with air-operated recording type temperature controls complete with steam control valves and air filter. These dryers are designed for easiest cleanout, fastest installation and highest operating economy of any dryer on the market.

Every machine in the system boasts Sargent's rugged construction; with simplicity of design, minimum maintenance, dependable, steady performance. Here is a system to save you money, man-power, time. Let us give you complete details.

C. G. SARGENT'S SONS CORPORATION
Graniteville, SINCE 1852 Massachusetts

PHILADELPHIA • CINCINNATI • ATLANTA • CHARLOTTE • HOUSTON • CHICAGO • DETROIT • TORONTO

SHORTS & REMNANTS

(from page 16)

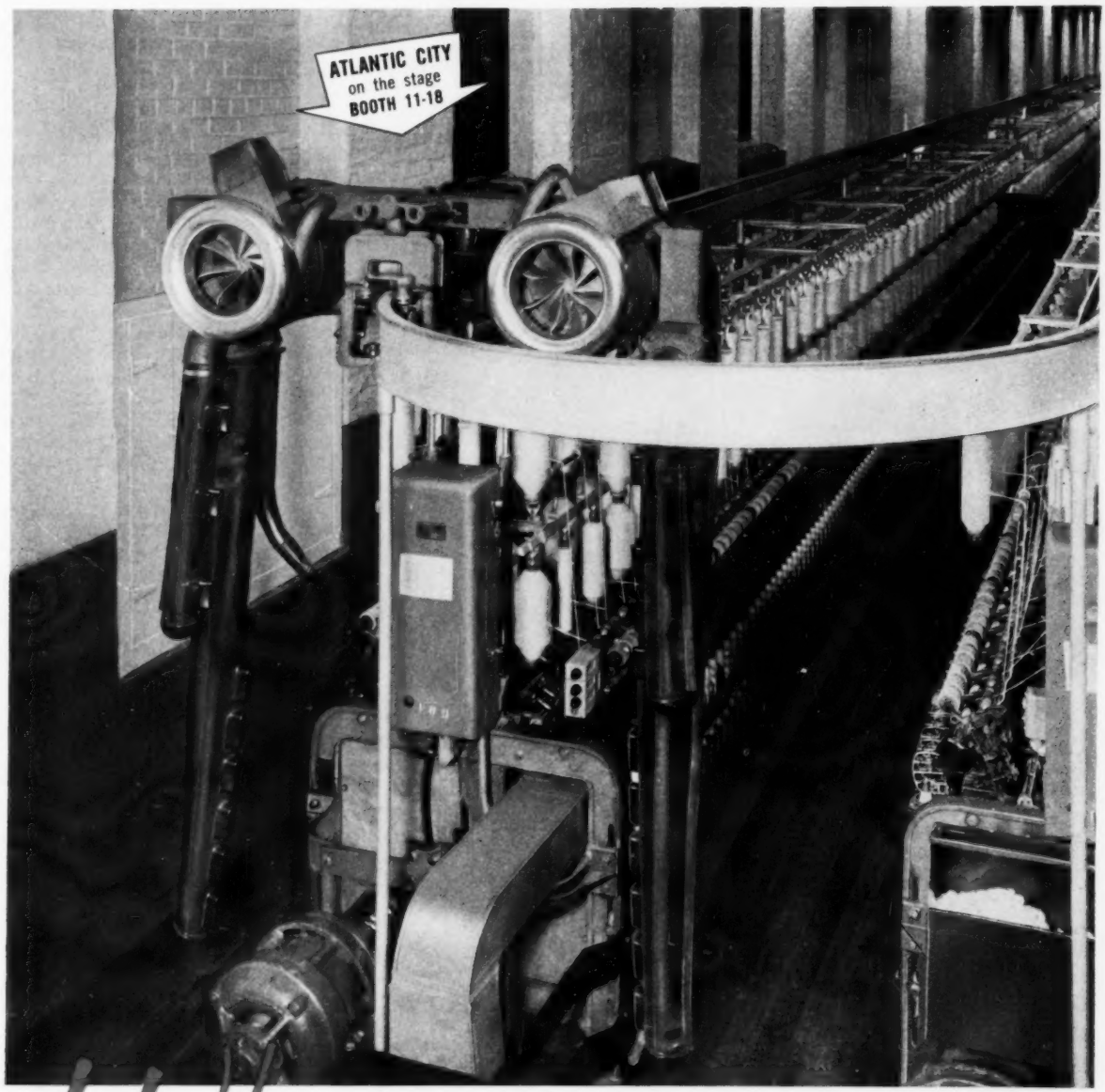
Avenue penthouse. The thieves made away with 24 cut but unset diamonds, ruby and diamond rings, and a full-length mink coat, the property of the president of an obscure firm of converters of drapery and slip-cover fabrics. They disdained the family silver and a beaver coat which was hanging next to the mink, but the uncut diamonds and mink coat were worth some $62,000, with the value of the rings undetermined for the moment. Police informed the converter of the robbery as he was about to leave Miami on a round-the-world trip.

We don't know what all this proves. Maybe just that mill men ought to be converters. With burglary insurance.

Index Proves Popular

Our announcement of the availability of the index to TEXTILE INDUSTRIES for 1959 has brought quite a spate of requests for copies. We still have a good supply available, so use the postage-paid reply card (page 179) to ask for yours. Among early requests were those from **Gene Connell,** Dan River Mills, Danville, Va.; **Arne J. Goldstein,** Dato Hosiery Co., Inc., Philadelphia, Pa.; **Tommie Headrick,** lab. supvr., Crystal Springs Bleachery, Chickamauga, Ga.; **Andrew F. Blackburn,** QC director, Appleton Woolen Mills, Appleton, Wis.; **Bill G. Koonts,** ind. engr., Wennonah Cotton Mills Co., Inc., Lexington, N. C.; **Morton Hacker,** res. asst., Johnson & Johnson, New Brunswick, N. J.; **Joseph E. Bresnahan,** John P. King Mfg. Co., Augusta, Ga.; **Alfred F. Steinhayer,** supt., Thomas Taylor & Sons, Hudson, Mass.; **David W. Scott,** Scottdale Mills, Scottdale, Ga.; **George M. Gemayel,** Alfonbeas Mohawk de Mexico,, Mexico, D.F.; **D. L. Epperson,** v-p and supt., West Boylston Mfg. Co., Montgomery, Ala.; **Theodore S. Bartwink,** Ace Dye & Finishing Co., Inc., West Warwick, R. I.; **W. N. Lilly,** Cone Mills Corp., Greensboro, N. C.; **Tibor Rakosi,** Kurdaneh Textile Works, Ltd., Kiryat Bialik, Israel; **John R. Thompson,** gen. overseer, Bibb Mfg. Co., Porterdale, Ga.; **William T. Carson, Jr.,** sec., William T. Carson Co., Philadelphia, Pa.; **George A. Heath,** res. dir., Collins & Aikman Corp., Ca-Vel, N. C.; **Marcel Ouellette,** American Velcro, Inc., Manchester, N. H.; **J. B. Bowdre,** sec., Juliette Milling Co., Macon, Ga.; **Gabriel Garcia-Harend,** chem. engr.,

Continued on page 22



Where

SPECIALIZED FRAME CLEANING BY BAHNSON CROSS-JET PAYS MORE PROFIT

- In cleaning more frames, more often
- In cleaning more overhead area
- In cleaning more track area plus conductor bars
- In reducing track and wheel wear

PARTIAL LIST OF USERS

Burlington Industries, Inc.
Carolina Mills, Inc.
Cone Mills Corp.
Dominion Textiles Co., Ltd.
Erwin Mills, Inc.
Glenwood Mills, Div. of Mayfair Mills
Harmony Grove Mills, Inc.
Joanna Cotton Mills Co.
Sadie Cotton Mills, Inc.
Spartan Mills
J. P. Stevens & Co., Inc.
Wiscassett Mills Co.

OTHER BAHNSON CLEANERS:

- AERO-SWEEP—FOR CEILINGS, WALLS
- ROV-AIRE—FOR ROVING
- DUO-BLAST—FOR LOOMS

Bahnson AIR-O-MATION

THE BAHNSON COMPANY
WINSTON-SALEM, N. C.

MODERN DYEHOUSE EQUIPMENT

THE DEPENDABLE KWG SKEIN DYEING MACHINE

KWG Double Reel Skein Dyeing Machine —all stainless steel unit built in capacities to 1000 pounds.

FOR QUALITY DYEING
WITHIN INCREASED BUT MORE NORMAL TEMPERATURE and PRESSURE LIMITS

Perfection in dyeing—for natural and the new synthetic fibers—is yours with KWG Skein Dyeing machines. Rugged construction . . . improved 'Ferrous-Wheel' performance . . . give you the penetration and evenness of color—the permanence of tone—for that extra measure of sales appeal—without concern for costly high-temperature, high-pressure methods. Dual-operations possible including scouring, dyeing and shrink-proofing, or scouring, bottom bleaching and dyeing of pastel shades.

You can point the way to extra sales . . . extra profits . . . today by writing Klauder Weldon Giles. A KWG representative will be glad to survey your needs. If necessary, he'll design special equipment to your specifications. There's no obligation.

Klauder Weldon Giles MACHINE COMPANY

ADAMS AVENUE & LEIPER STREET • PHILADELPHIA 24, PA.

SHORTS & REMNANTS

(from page 20)

Acabados Textile San Francisco, Mexico, D.F.; **Sam O. Jones, Jr.,** Pepperell Mfg. Co., Lindale, Ga.; **Milton Gross,** Pepperell Mfg. Co., Biddeford, Me.; **Albert Freeman,** carding overseer, American & Efird Mills Co., Mt. Holly, N. C.; **Eric Antrobus,** asst. mgr., The Hamilton Cotton Co. Ltd., Hamilton, Ont.; **J. Leslie Anderson,** supt. of dyeing, Worcester Textile Co., Inc., Greystone, R. I.; librarians from Callaway Mills Co., LaGrange, Ga.; Kendall Co., Paw Creek, N. C.; Dominion Textile Co. Ltd., Montreal, P.Q.; and West Point Mfg. Co., Shawmut, Ala.; plus librarians at colleges and universities from Cornell to CCNY to Mississippi to Texas A & M; students and faculty from all the textile schools; plus such unlikely correspondents as the French Embassy and a Marine officer at Pensacola, Fla.; and dozens of others.

► Here is a little "Notice to Readers," which appeared recently in *Fulton News*, published for the employees of Fulton Cotton Mills, Atlanta, Ga.: "In case you find a mistake in this magazine, please remember it was put there for somebody's benefit. We try to please everybody, and some people are always looking for mistakes."

Mills Want "Safgo"

"On page 119 and 121 of the November, 1959, issue there appears an article referring to a bingo-like game called SAFGO. . . appreciate it if you would supply us with the address of the manufacturer of the cards . . . "

R. GOLDENBERG
United Merch. & Mfrs., Inc.
New York, N. Y.

► Several other readers asked about this. The manufacturer of the cards is Glenco Products, P. O. Box 303, Los Angeles 58, Calif.

Supervisors' Responsibilities

"Your articles in TEXTILE INDUSTRIES on 'The Supervisor and His Responsibilities' constituted the briefest and most practical treatment of the subject I have observed . . . would like to obtain 15 copies for distribution to our supervisors . . . "

DAVID E. ARTHUR
Gen. mgr., Irving Worsted Co.
Chester, Pa.

► Several other readers, including **A. J. Strickland, Jr.,** pres., The Strickland Cotton Mills, Valdosta,

Continued on page 30

NEW LOW-COST PERMANENT SOFTENER FOR...

Emulsifiable A-C® Polyethylene

OFFERS SUPERB "HAND" PLUS

- HIGHER ABRASION RESISTANCE
- IMPROVED TEAR STRENGTH
- EXTRA CREASE RESISTANCE
- REDUCED NEEDLE CUTTING

Whatever fabrics you finish, you can benefit from the new textile finishes now being formulated with A-C Polyethylene.

Already widely accepted as a *softener and finishing agent* to impart superb "hand," the new emulsions containing A-C Polyethylene benefit every type of synthetic and natural fiber in some way over other textile finishes. In addition to better "hand," they provide higher abrasion resistance, improved tear strength, extra crease resistance, permanence through multiple cleaning cycles, and better sewability through reduced needle cutting.

In wash-and-wear finishes, for example, A-C Polyethylene overcomes loss of "hand" and tear strength when used along with the thermosetting resins commonly employed in finishing wash-and-wear.

Write today for more information. Why not find out all about this new advance in textile finishing? Your textile chemical supplier either has an A-C Polyethylene finish on hand or can formulate one for your specific needs. Anionic, cationic and nonionic emulsions are available to fit all needs. (We are manufacturers of resins, not finishing emulsions.) Or write to us direct for complete information at the address below.

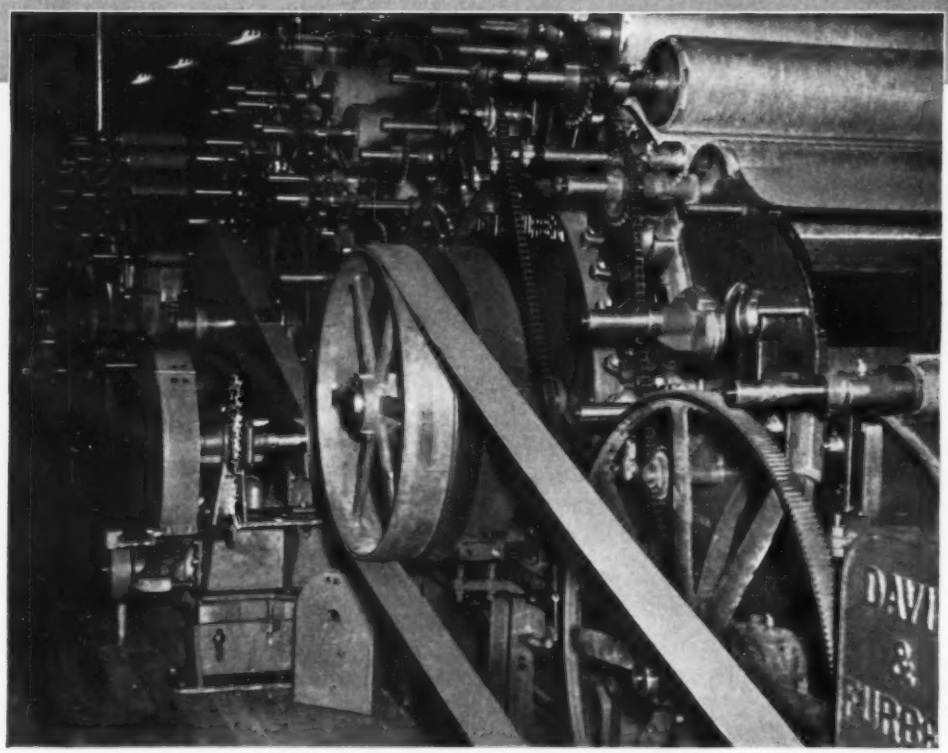
Allied Chemical

SEMET-SOLVAY PETROCHEMICAL DIVISION

Dept. 572-AW, 40 Rector Street
New York 6, N. Y.

National Distribution • Warehousing in Principal Cities

More Power to the Textile Industry



Rhoads belting gives efficient, economical performance on carding machine.

In the Textile Industry, where machine performance so often depends on smooth-running, long lasting belts — lickerin, doffer, gainer, stripper, etc., — Rhoads stands out for performance and economy.

At Rhoads, there is a flat belt that is exactly right for your operating conditions — economical in original cost and in operating cost, shock absorbing, highly efficient in speed reduction, safe, long-lasting.

Rhoads recommends the belting that is engineered to meet your needs — famous Tannate leather belting, new Texalon nylon core synthetic belting, new Tanastic nylon core leather belting. For quotations or for literature on belting or leather check straps, address: Engineering Department,

J. E. RHOADS & SONS
Wilmington 99, Delaware

RHOADS

Established 1702 . . . Pioneers in Mechanical Power Transmission

REDUCE
DOSAGE...
Says the Doctor
The New "M" Type Conical Ring
needs only drops of oil to produce
● More Uniform Lubrication Without Oil Waste.
● Longer Traveler Life.
● Longer Ring Life.
● Cleaner Yarn.
● Higher Spindle Speeds.
● Reduced Yarn Breakage.

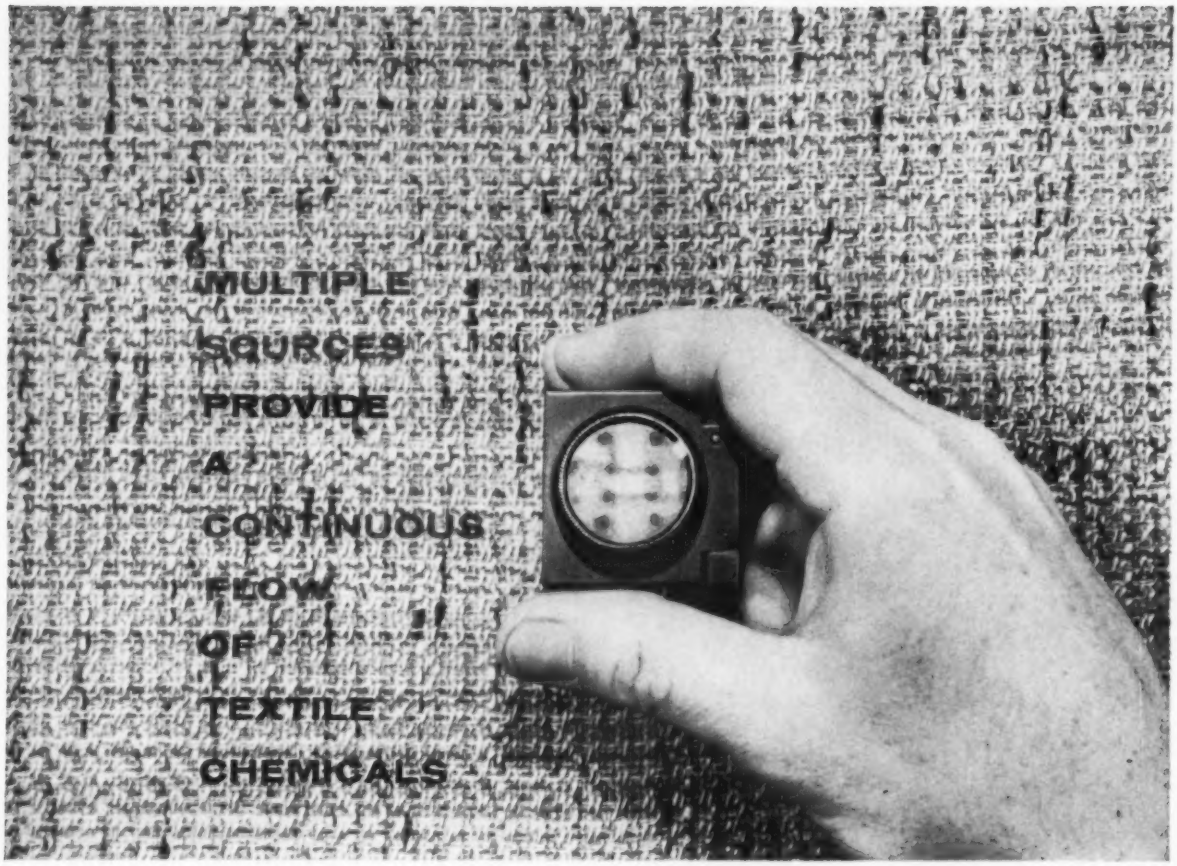
The "M" Type Herr Conical Ring introduces a new, controlled method of lubrication. This outstanding improvement in ring lubrication is called Seam Lubrication — a method that utilizes the principle of capillary attraction. Thoroughly tested for several years in some of the largest textile plants, the "M" type Herr Ring provides more uniform lubrication than has been possible before. There is no oil waste. Every drop of oil is utilized being drawn by capillary attraction through the top and conical seams. There are no wicks that leak oil — no rewicking. The operation is clean. Maintenance costs are lowered. Oil consumption is greatly reduced, yet faster spindle speeds are possible without extra wear to ring or traveler. Write today to get all the facts that make new profits.

Oil is Supplied to Both Top and Conical Bearing Surfaces Through Seams.
Oil Flows to Annular Reservoir Within the Ring, Then is Drawn by Capillary Action Through Seams.

HERR MANUFACTURING CO., INC.

310 FRANKLIN STREET • BUFFALO 2, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES



Carbon Disulfide, Caustic Soda, Sodium Sulfhydrate (Sodium Hydrosulfide) and Sulfuric Acid are in constant demand.

It has long been Stauffer policy to provide these essential textile chemicals in a steady stream.

Stauffer plants in Virginia, Tennessee, Pennsylvania, Ohio, Western New York and Alabama are the chief sources for the Textile Industry.

A traffic department of professional skill maintains daily contact with the movement of chemicals by truck, tank car and barge.

Top quality chemicals, tremendous capacity, multiple sources, skilled and conscientious traffic control have made us many satisfied customers in the Textile Industry.

We're looking for more!

Especially, we'd like to hear from people who can utilize Stauffer's Technical Service on handling, safety and materials of construction for these important textile chemicals. Stauffer is the country's leading producer of Carbon Disulfide, one of the largest producers of Sulfuric Acid and Sodium Sulfhydrate, and a major producer of Caustic Soda.

Stauffer CHEMICALS SINCE 1885

STAUFFER CHEMICAL COMPANY

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Prudential Plaza, Chicago 1, Illinois
824 Wilshire Boulevard, Los Angeles 17, California
636 California Street, San Francisco 8, California
P. O. Box 9716, Houston 15, Texas

75 YEARS OF SERVICE TO INDUSTRY AND AGRICULTURE

SOUTHERN OFFICE: Stauffer Chemical Company, 2350 Palmour Drive, N. E., Atlanta 5, Georgia

New! Lincoln
Micro-Measure System

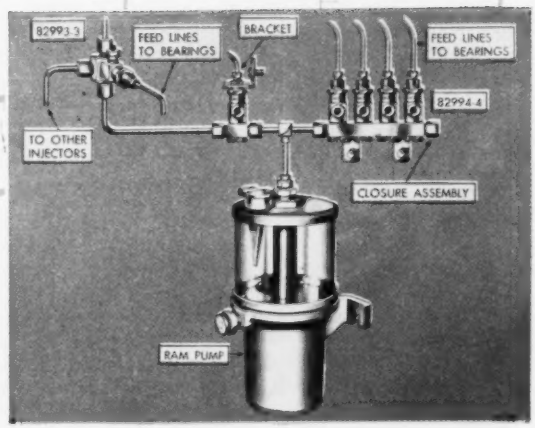
FOR AUTOMATIC PRECISION LUBRICATION OF YOUR TEXTILE MACHINERY

Pre-measures and injects fluid lubricants, automatically, to millionths of an ounce at rigidly-controlled intervals

In the textile industry, it is essential to keep high-speed machinery steadily operating throughout a shift. Downtime for lubrication is costly and frequent. Overheated bearings mean additional time lost for repairs. Hand-oiling methods are not adequate for today's precision machinery and production schedules. Lincoln offers a dependable, low-cost solution—the new Micro-Measure System.

This miniaturized system, specially engineered to apply lubricants to high-speed bearings with minute oil capacities, can be cycled as often as every minute. Injectors can be adjusted to deliver as little as 1/135 of a drop or 200 millionths of an ounce of refinery-pure lubricant—supplied by an automatically controlled, air-operated pump. Micro-Measure maintains a constant, uniform film of oil on all bearing surfaces with no overflow, no dripping to spoil the product in process. Machinery runs steadily at uniform efficiency throughout each shift.

The decrease of downtime (and the savings on lubricant consumption) will offset the cost of a Micro-Measure System within a few weeks. For more information on the Lincoln Micro-Measure System and how it can be profitably incorporated into your existing equipment, mail the coupon now.



Coast-to-Coast Sales and Service through 16 Branch Offices and Leading Industrial Distributors

Lincoln
LINCOLN ENGINEERING COMPANY
Division of The McNeil Machine & Engineering Co.

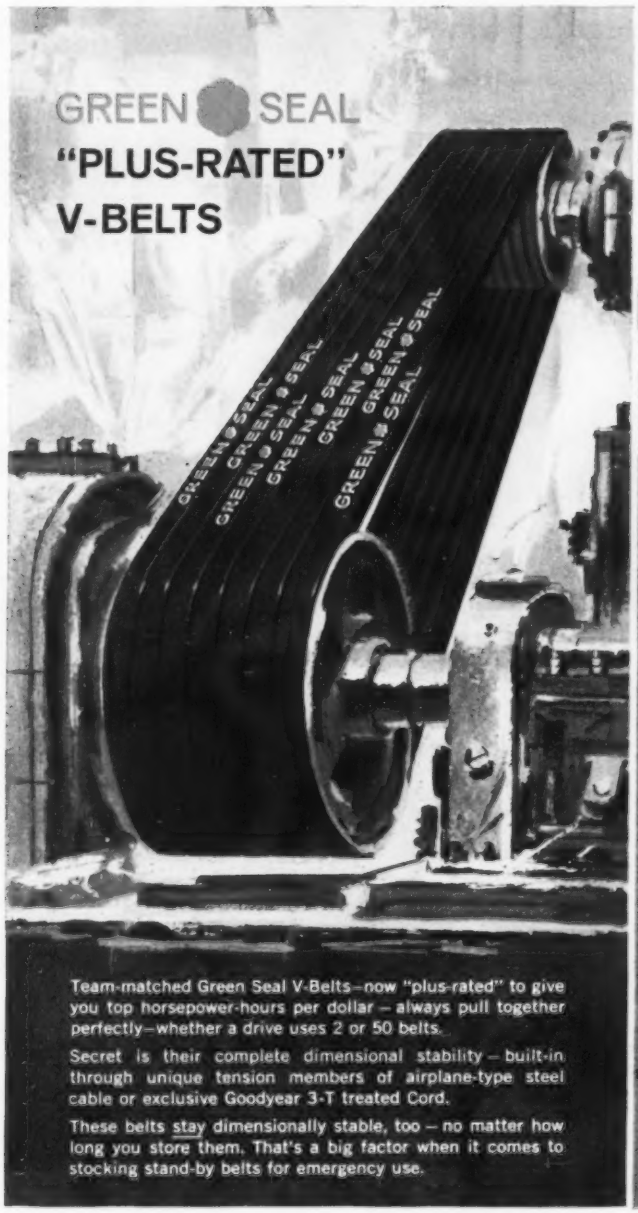
MAIL THIS COUPON TODAY!

LINCOLN ENGINEERING COMPANY
5702 Natural Bridge Avenue
St. Louis 20, Missouri

Please send my copy of MICRO-MEASURE SYSTEM Bulletin 816.

Name..... Title.....
Company.....
Address.....
City..... Zone..... State.....

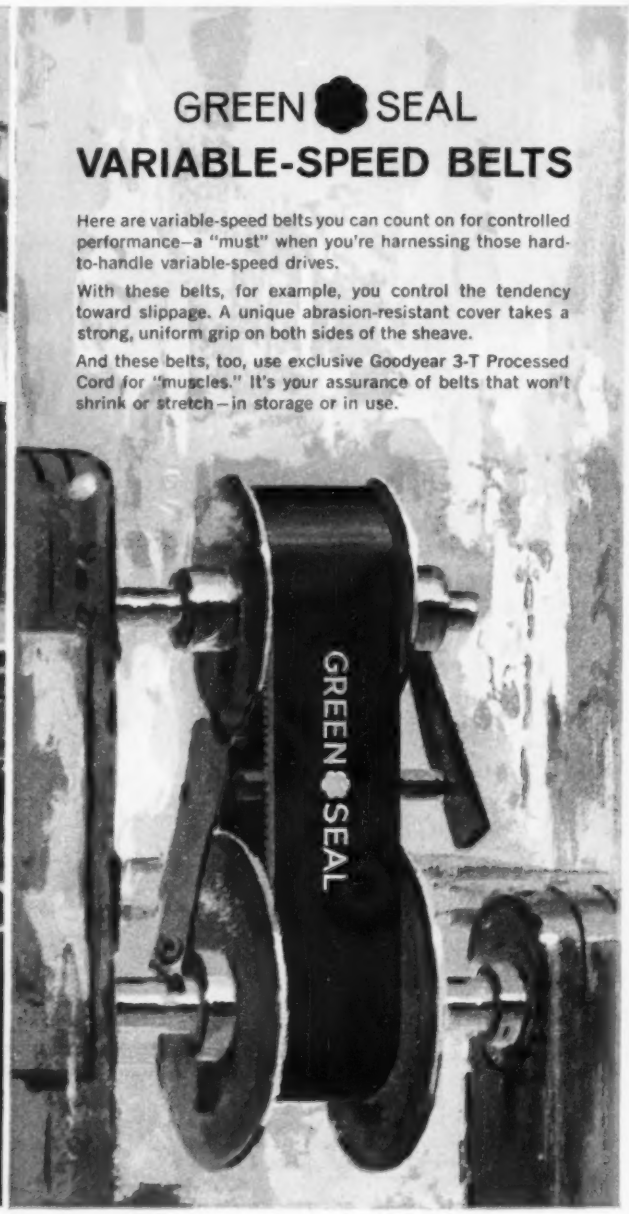
to beat all your belting problems...



Team-matched Green Seal V-Belts—now "plus-rated" to give you top horsepower-hours per dollar—always pull together perfectly—whether a drive uses 2 or 50 belts.

Secret is their complete dimensional stability—built-in through unique tension members of airplane-type steel cable or exclusive Goodyear 3-T treated Cord.

These belts stay dimensionally stable, too—no matter how long you store them. That's a big factor when it comes to stocking stand-by belts for emergency use.

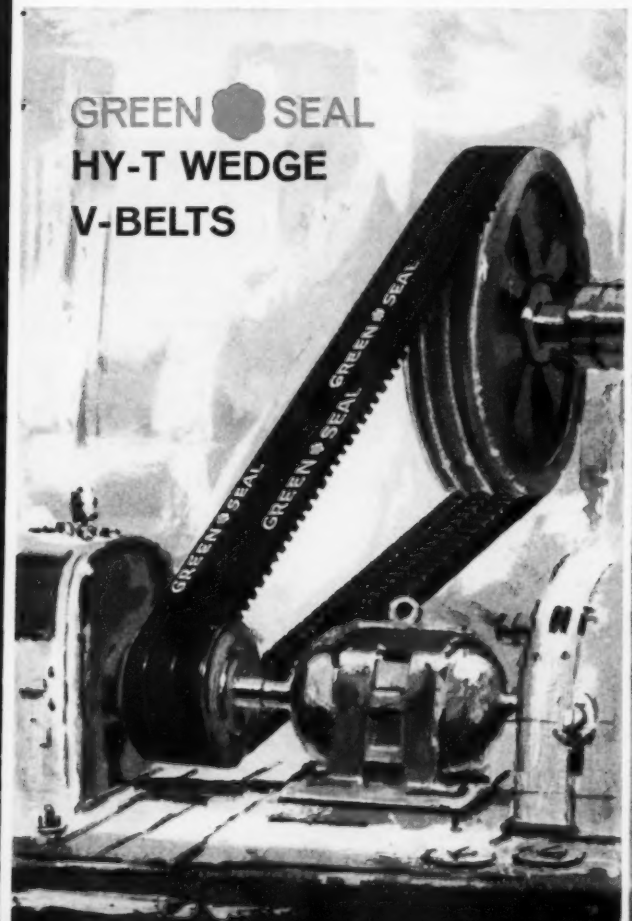

GREEN SEAL
VARIABLE-SPEED BELTS
Here are variable-speed belts you can count on for controlled performance—a "must" when you're harnessing those hard-to-handle variable-speed drives.
With these belts, for example, you control the tendency toward slippage. A unique abrasion-resistant cover takes a strong, uniform grip on both sides of the sheave.
And these belts, too, use exclusive Goodyear 3-T Processed Cord for "muscles." It's your assurance of belts that won't shrink or stretch—in storage or in use.
GREEN SEAL

NO MATTER WHAT YOU'RE BELTING—OR WHAT TYPE BELT IT CALLS FOR—YOU CAN COUNT ON A GOODYEAR BELT FOR MAXIMUM, TROUBLE-FREE HOURS AT MINIMUM COST. JUST CONTACT THE

THE BIG NAME IN V-BELTS: **GOODYEAR**

go down the line with Goodyear

GREEN SEAL
HY-T WEDGE V-BELTS



With these new, "wedge" V-Belts, you can belt the same horsepower on drives as much as 50% smaller – saving as much as 20% in drive costs.

You see, the new HY-T WEDGE design eliminates excess "fat" without the sacrifice of strength. And HY-T WEDGE V-Belts are made in 3 different cross sections to meet all requirements. All 3 are oil-resistant and static-conducting at no extra cost.

And they're all Green Seal quality – the only wedge-type V-Belts offering you 3-T construction for perfect team performance.

POSITIVE DRIVE BELTS

The new P.D. Belts by Goodyear are made to order for the belt-killing drives – the ones operating under high torque and at precise speed ratios.

P.D. Belts open the door to many design advances: smaller drive sizes, lighter weight, greater precision. Moreover, maintenance needs can be cut – lubrication systems completely eliminated.

What's more, super-quality P.D. Belts by Goodyear are available for use on drives from fractional up to 600 h.p.–speeds over 10,000 f.p.m.

G.T.M.–GOODYEAR TECHNICAL MAN–THROUGH YOUR GOODYEAR DISTRIBUTOR. OR WRITE: GOODYEAR, INDUSTRIAL PRODUCTS DIVISION, LINCOLN 2, NEBRASKA, OR AKRON 16, OHIO.

YEAR THE GREATEST NAME IN RUBBER

Green Seal, HY-T WEDGE, P.D.–T.M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

Tennant-maintained floor in carding department of a large southern mill

Only the TENNANT System can keep your floors this clean

Chances are that your floors *can* look like this the year around . . . *if* you use the TENNANT SYSTEM.

And your maintenance costs will usually run less per year!

Floor seals last longer. Newly-developed TENNANT Floor Seals, specially designed for textile mills, last longer than any comparable materials we know of. This ends need for frequent recoating and reduces annual maintenance costs.

Makes floors easier to clean. The exclusive TENNANT process *actually increases dirt-resistance of the average textile mill floor by 300%.* Soilage wipes off easily . . . in a fraction of the usual time.

Keeps floors bright. The TENNANT SYSTEM's exclusive cleaning techniques make it easy to keep your floor attractive month-after-month . . . even under heavy traffic.

You'll also enjoy added benefits in improved safety and employee efficiency when your mill is a bright, pleasant place to work in.

Your TENNANT Man is a qualified floor expert, ready to give free estimate of savings possible in *your* mill. For full information, write G. H. Tennant Co., 735C N. Lilac Drive, Minneapolis 22, Minn.

TENNANT

The Textile Industry's Most Widely Used

FLOOR MAINTENANCE SYSTEM

Methods

Machines

Materials

FLOOR MAINTENANCE SYSTEMS

(from page 22)

Ga.; and **Ing. Jesus Nader J.**, Textiles Modernos de Monterrey, S.A., Monterrey, Mexico; have asked about these articles lately. They have been reprinted in booklet form, and are available with a subscription to TEXTILE INDUSTRIES.

"Furring" Shuttles With Nylon

"I read with interest the article 'How to "Fur" Shuttles With Nylon' [TEXTILE INDUSTRIES for December, 1959, pp. 88-89] and would like to know what staple was found most satisfactory, and the supplier of this material."

J. J. MCELROY
Gen. mgr., White Horse Mill
Greenville, S. C.

► A 40-pound test monofilament nylon is used. One source of supply is Baxter Corp., P. O. Box 1160, Paterson, N. J.

Komets and Links

"We are interested in securing several copies of 'The Komet and Links and Links Machines,' second edition. . ."

CLAUDE COLLINS
Asst. gen. supt., men's knit. div.
Kayser-Roth Hosiery Co., Inc.
Burlington, N. C.

► **Bruce B. Roberts,** director, Guilford Industrial Education Center, Jamestown, N. C., also wanted copies for use in classes for knitting machine fixers. Unfortunately, this book, which was a reprint of a series of articles originally appearing in TI, is now out of print.

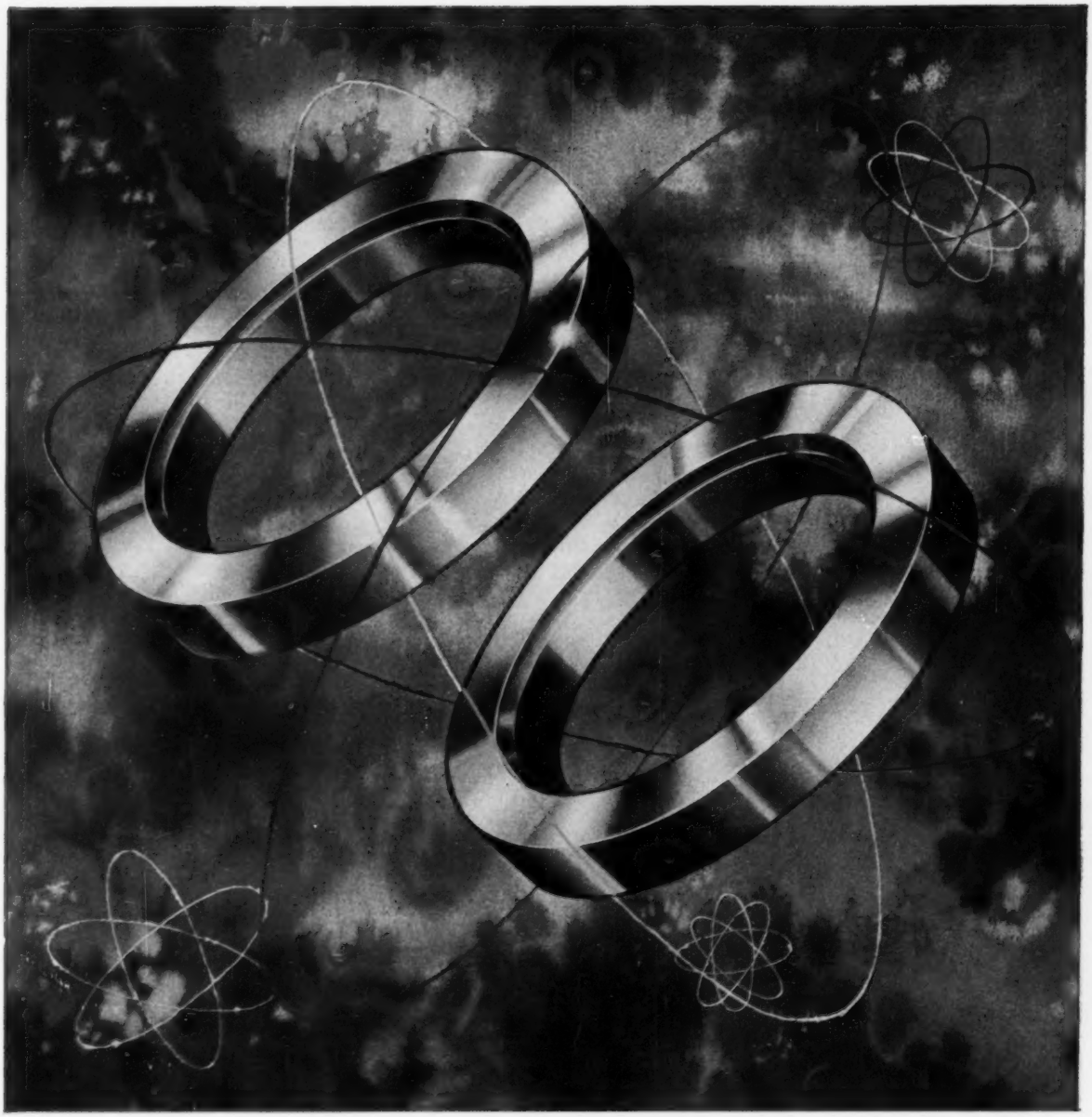
Corrosion Resistance

"The November 1959 issue of TEXTILE INDUSTRIES has on page 111 a short article concerning maintenance of air wash system . . . would like to know the name of the corrosion-resistant paint which is mentioned . . ."

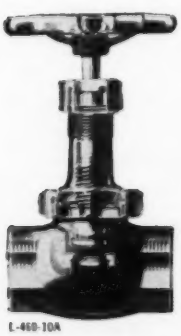
R. S. LLOYD
Buffalo Forge Co.
Buffalo, N. Y.

► **H. C. Norman,** master mechanic at West Boylston Mfg. Co., Montgomery, Ala., also asked about this. The corrosion-resistant paint applied to the ducts was "Rustoleum." The black coating used on the fan housings is called "Rubalt, RE Grade," and was supplied to the mill by Carrier Corp.

► See you next month, when we'll have two special features, covering knitting and tufted textiles.



Perfect Pair to Put You Ahead of Competition



E-460-10A

Valve maintenance has been a costly problem in thousands of plants and buildings. Leakage, lost production, downtime, and maintenance make it hard to control costs. Now, patented Brinalloy® Seats and Discs, in Lunkenheimer LQ600 Bronze Globe Valves, are providing lowered costs that mean profitable, competitive operation. For a demonstration, contact your Lunkenheimer distributor, or write The Lunkenheimer Company, Cincinnati 14, Ohio.

You Can't Find the *Cost* of a valve on a *Price* List

LUNKENHEIMER®
THE ONE *Great* NAME IN VALVES
• BRONZE • IRON • STEEL • PVC

YOU BENEFIT FOUR WAYS from WHITIN Even-Draft* Drawing

1. Increased production
2. More uniform sliver
3. Lower costs in drawing and subsequent operations
4. Better quality yarn and fabric

Partial view — installation of 264 deliveries of Whitin Even-Draft Drawing at Riegel Textile Corp., Trion, Ga.

Mill after mill is proving that Whitin Even-Draft drawing provides 4-way benefits. Operating at 400 feet per minute Even-Draft drawing frames produce extremely uniform sliver — reduce floor space and direct labor cost by as much as 50%. The improved sliver, and consequently better roving, results in greatly improved spinning room performance. Mills also report fewer ends down, increased yarn breaking strength and evenness. Weaving operations benefit from stronger yarn and mills agree that fabric quality has improved following the installation of Whitin Even-Draft drawing frames.

Now installed in more than 150 mills in more than 40 countries, these frames continue to make profits for their users.

*Trade Mark

For complete information ask your Whitin representative or write direct to us.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

HARSHAW

Zinc Nitrate Flake

Readily Soluble
High Purity
Less Fines
Easy to Handle

Harshaw Zinc Nitrate Flake is especially suited for polymerizing resins currently being used for wrinkle-free and wash-and-wear fabrics.

Harshaw Zinc Nitrate Flake is produced under rigid control assuring the user of uniform resin catalysis at all times.

Harshaw Zinc Nitrate Flake measures about 3/32" thick by ½" long, thereby reducing dust and fines to absolute minumum.

Packed in 300 or 100 pound Leverpak drums with polyethylene liner, Harshaw Zinc Nitrate Flake is available for immediate shipment. Write for samples and prices.

TYPICAL AVERAGE ANALYSIS:

Zn	25.20%
Fe	0.001%
Pb	0.005%
H_2O Insoluble	.008%
pH of 5% solution	5.1

HARSHAW

THE HARSHAW CHEMICAL CO.

1945 E. 97th Street, Cleveland 6, Ohio

CHICAGO • CINCINNATI • CLEVELAND • DETROIT • HASTINGS-ON-HUDSON, N. Y.
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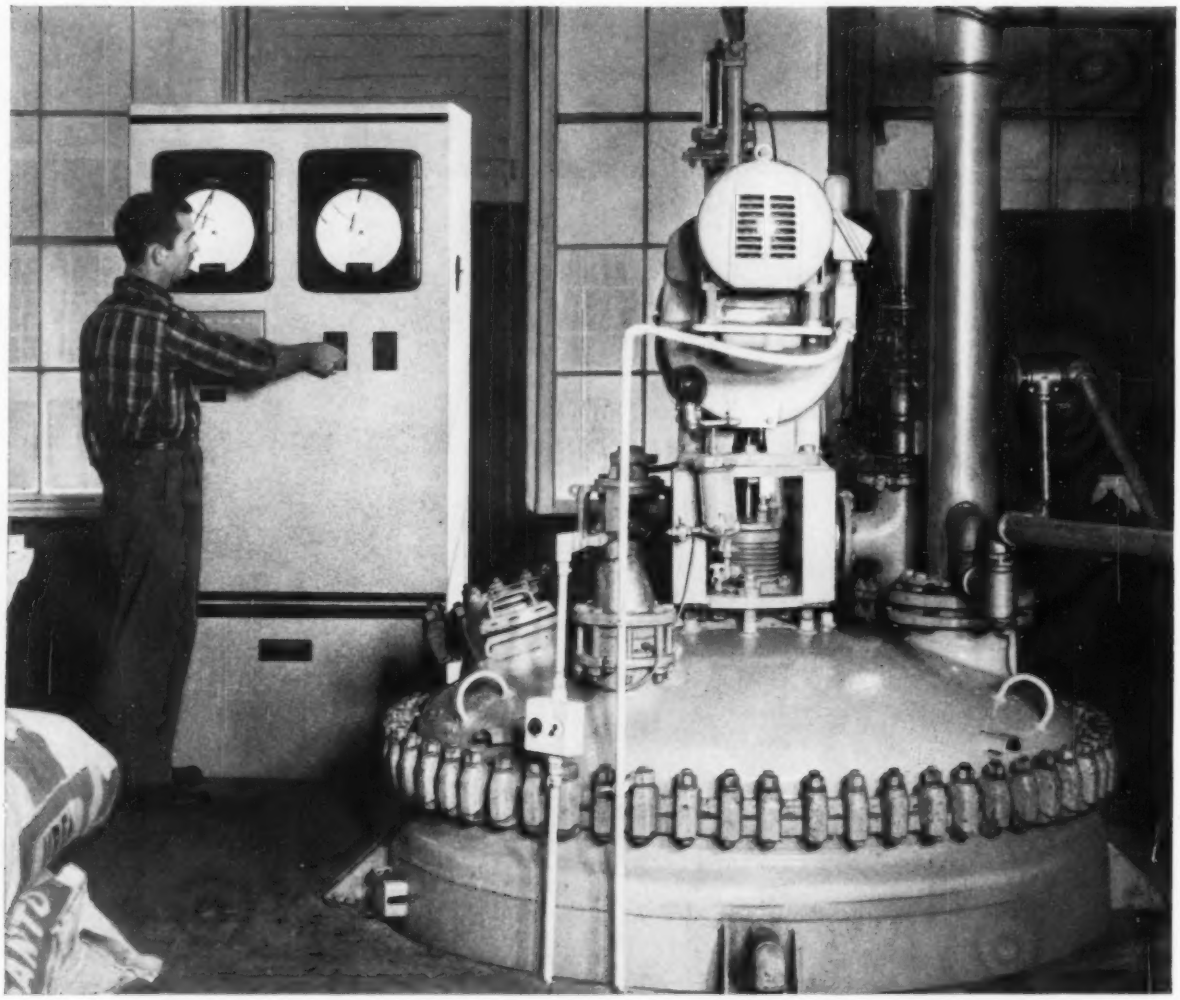
at Newport Finishing Corp. . . .



These two Foxboro Dynalog Recorders help maintain perfect uniformity of urea-formaldehyde production at Newport Finishing Corp. Two-pen Dynalog at left records reactor pH and temperature, while Dynalog at right logs viscosity. Roy Brown, chief chemist, reports no maintenance has been required since Foxboro Dynalogs were installed April, 1958.

Every batch a perfect match . . . thanks to Foxboro Dynalog* pH and Viscosity Recorders

When you're "batching" urea-formaldehyde resin, continuous analytical measurements are important. Accurate pH recording is essential for the highest quality resin. Viscosity measurements prevent the batch from being ruined — and perhaps the reactor too.

At Newport Finishing Corp., Fall River, Mass., Foxboro Dynalog Recorders provide accurate, continuous records of both these variables, plus reactor temperature. These records tell when corrective action is required — insure perfect repeatability, batch after batch.

Foxboro Dynalog recorders — and controllers, can do the same in your plant . . . and pay for themselves while they do it.

Ask your Foxboro field engineer for details. Or write The Foxboro Company, 483 Neponset Avenue, Foxboro, Massachusetts.

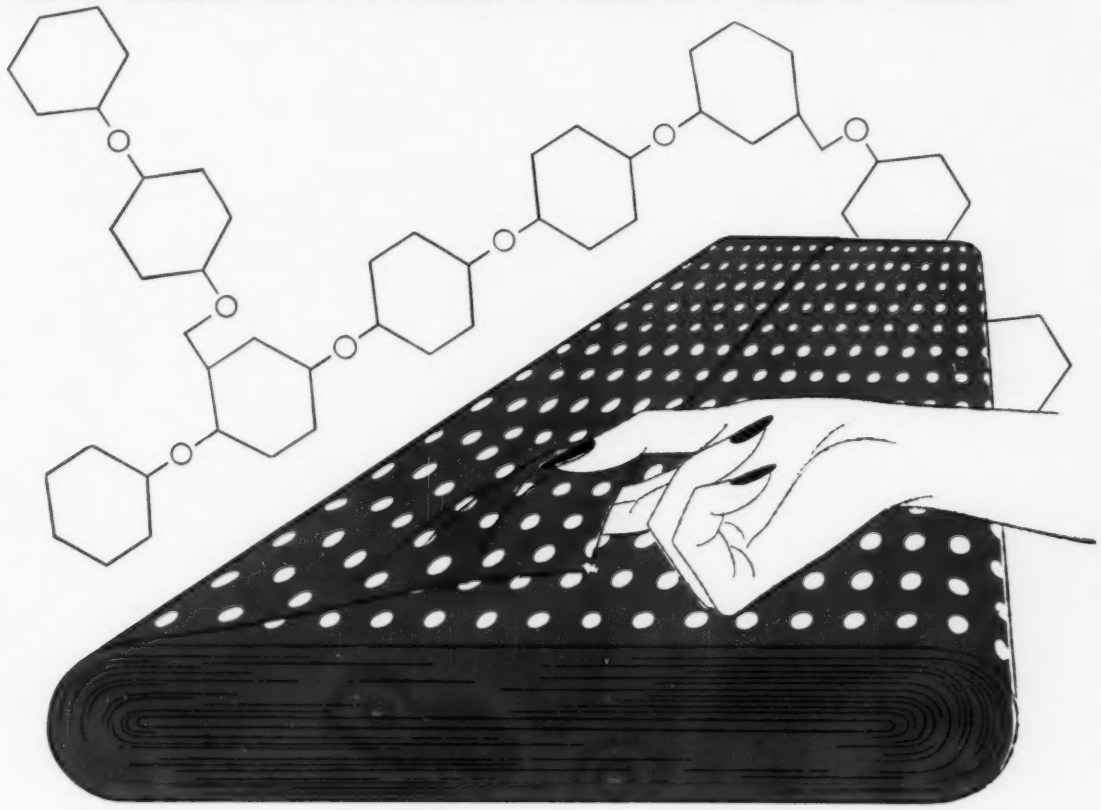
Reg. U.S. Pat. Off.

FOXBORO

REG. U.S. PAT. OFF.

Kosol

NEW COLD WATER DISPERSIBLE HAND BUILDER



IMPROVES HAND OF WASH 'N WEAR FABRICS

KOSOL is a new kind of hand builder. With a branched chain type structure that cross-links more readily with resins. Clear. Colorless. Gives a new fullness to wash 'n wear finishes.

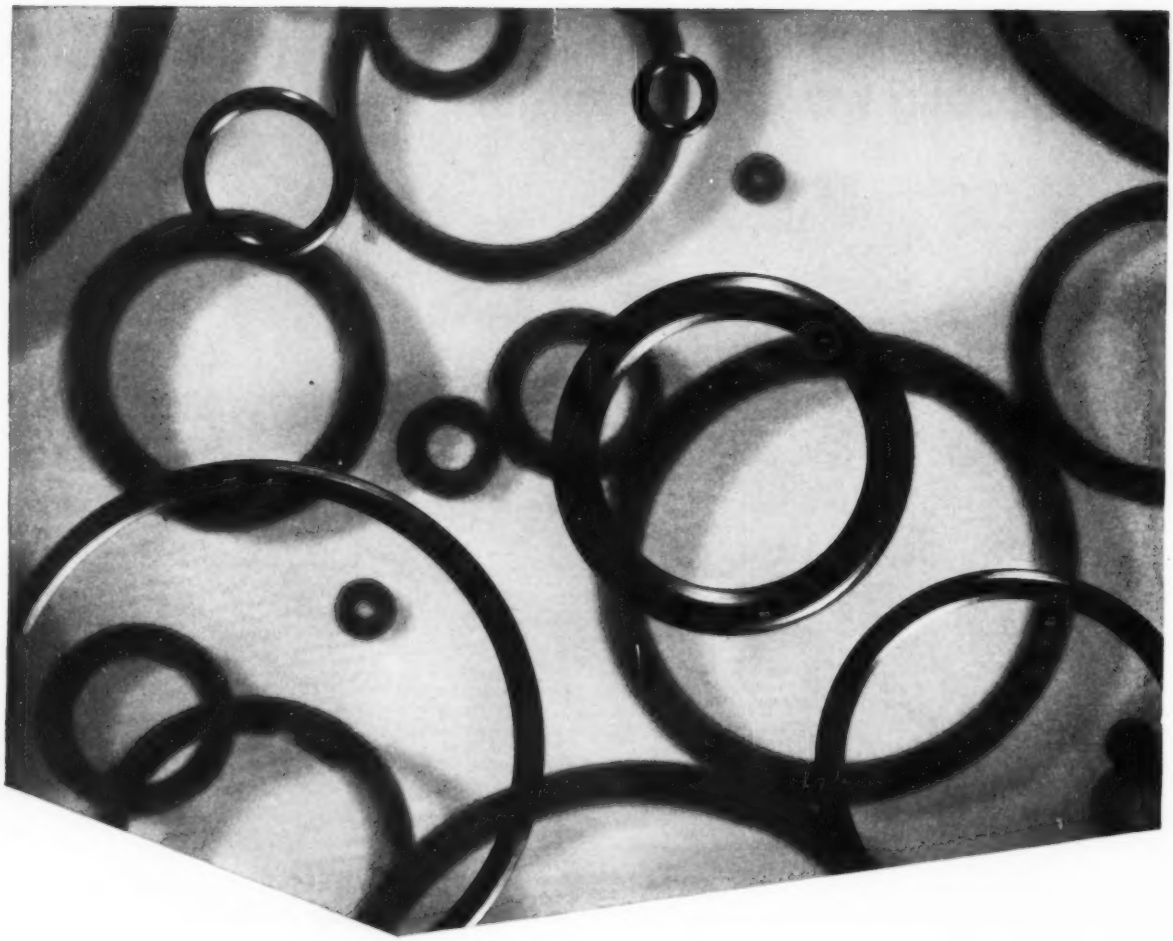
KOSOL takes only minutes to prepare. No cooking. No cooling. You simply disperse in cold water. Add to resin mixture. Then apply to fabric!

KOSOL is compatible with all resins now in widespread use. It's another development of textile research at National. Try it for that little extra that means so much in fabrics. Write or call your nearest National office.

TEXTILE DIVISION

National STARCH and CHEMICAL CORPORATION

750 Third Avenue, New York 17
3641 So. Washtenaw Avenue, Chicago 32
87 Haynes Street, N.W., Atlanta 3



Dixie Bearings, Inc. has "O" RINGS in all materials . . . in all sizes and quantities . . . in stock ready to ship!

Large or small "O" Ring users can get immediate delivery from the nearest Dixie Bearings, Inc. branch. "O" Rings for maintenance or for original equipment production. Call a sales engineer from Dixie Bearings, Inc. to help you solve any "O" Ring problem—Complete information on all types of "O" Rings is available. Ask for it NOW!

These Materials Available: Standard Buna-N Rubber • Viton • Teflon • Silicone Rubber • Butyl Rubber • Military Spec. Series: MIL P5516A, MIL P5315A, MIL G5510A, MIL P25732, MIL R25897, AMS 7270, AMS 7271 and AMS 7274 • Teflon and Leather Back-up Washers.

All O-Rings Available in Series 6227, 6230, 6290 and 29513.

SELECT "O" RING KITS 180 "O" Rings in Sizes 1 to 25 — All Materials — Priced from $24.50 *(Depending on Material).*

Providing bearing service in the South➤

DIXIE BEARINGS, INC.

FLORIDA: Jacksonville • **GEORGIA:** Atlanta • **KENTUCKY:** Louisville
LOUISIANA: Baton Rouge • New Orleans • **N. CAROLINA:** Charlotte • Greensboro
S. CAROLINA: Greenville • **TENNESSEE:** Chattanooga • Kingsport • Knoxville • Nashville
VIRGINIA: Norfolk • Richmond

The wide range of properties now available in Eastman's Epolene series provides greater flexibility in formulating polyethylene emulsions for softening "wash and wear" cottons and synthetics, and for textile lubricants and sizes.

Permanent, low in color, non-chlorine retentive and easy to prepare, emulsions based on Epolene polyethylene give you a practical and economical method for improving the hand, abrasion resistance and tear resistance of "wash and wear" treated fabrics.

With Epolene, you can prepare any kind of emulsion system, cationic, anionic or non-ionic, with solids contents of up to 40%.

Choose from three different low-molecular-weight resins to obtain the right emulsion properties and finishing characteristics for your equipment and service.

Epolene E is the highest-molecular-weight resin of the three. It produces stable, low-color emulsion systems of superior quality for use in softening cottons or synthetics, or as a lubricant to reduce needle-cutting and increase sewability. Like other Epolene resins, it needs no curing, lasts through repeated launderings and resists dirt pick-up and redeposition.

Epolene LVE, a new resin type, has a lower melt viscosity than has Epolene E, thus offering somewhat better handling characteristics. Epolene LVE is softer than other resins in the series. The stability of its emulsions in the presence of resin catalysts is outstanding, especially at the low end of the pH scale, as indicated by its relatively high HLB factor.

Epolene HDE is the first high-density, emulsifiable low-molecular-weight polyethylene on the market. Because it is much harder, it improves significantly the abrasion resistance and tear resistance in cotton and cotton blends. Its stability and permanence are excellent. It, too, offers easier handling characteristics during emulsion preparation because of its low melt viscosity.

If you are formulating polyethylene softeners and would like to produce stable, economical emulsion systems of superior all-'round characteristics, look to Epolene from Eastman. Let us introduce you, also, to new time-saving and cost-cutting emulsifying techniques developed at our textile laboratories. For more information on the formulating and performance advantages of these superior polyethylene resins or for specific formulating assistance, write your nearest Eastman office. We invite your inquiry.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Massachusetts; Greensboro, North Carolina; Houston; New York City; Philadelphia; St. Louis. **West Coast: Wilson Meyer Co.,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

Eastman now offers textile finishers 3 basic types of polyethylene

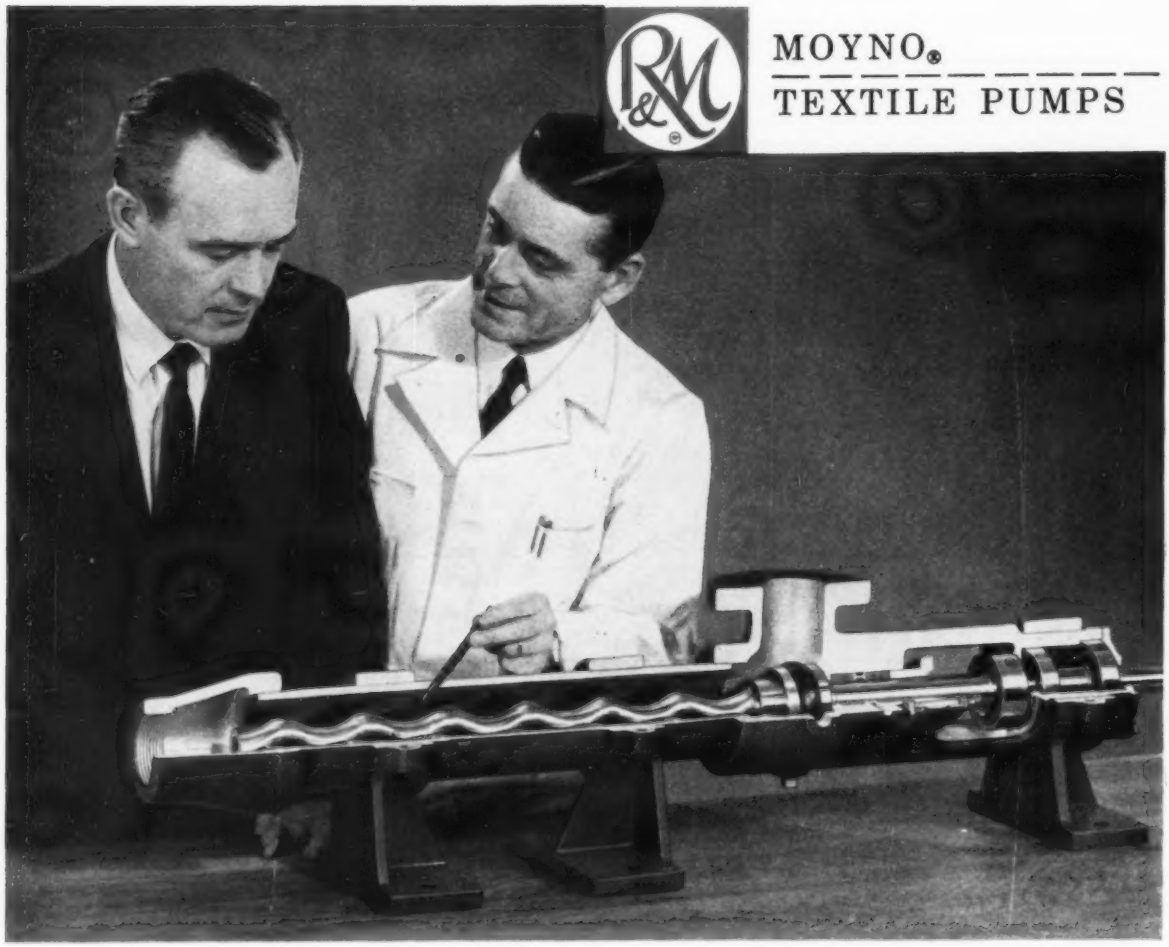
New EPOLENE resins enable textile chemists to formulate broader range of softeners

Property	Epolene E	Epolene LVE	Epolene HDE
Molecular Weight	2500	1500	1500
Density	0.938	0.939	0.956
Ring and Ball Softening Point, °C. (ASTM D-36-26)	104-108	104-105	110-111
Penetration Hardness (100 g./5 sec./77°F., tenths of mm.)	2	5	1
Color (liquid), Gardner scale, max.	2	2	2
Brookfield Viscosity (cps. @ 120°C.)	1500	400	455

Epolene

EASTMAN low-molecular-weight polyethylene resins

MOYNO®
TEXTILE PUMPS

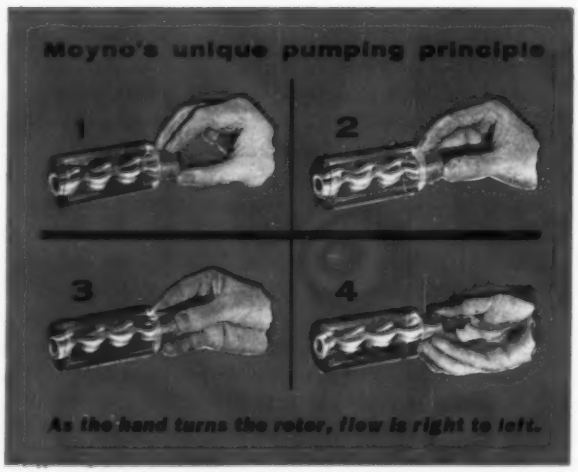


MOYNOS® Pump Highly Viscous and Corrosive Textile Liquids *Without Excessive Wear!*

MOYNOS pump any textile liquid that can be forced through a pipe! They handle highly viscous materials—thickeners, starch size and non-pourable pastes economically. They pump corrosive liquids—acid solutions, dye and chlorine—without appreciable pump wear. MOYNO can satisfactorily handle caustic alkali solutions and not cause foaming or aerating. In many textile mills, MOYNOS have cut downtime drastically on mercerizing and sizing machines when they replaced rotary pumps which wore quickly and lost capacity and suction characteristics.

This remarkable ability to pump textile troublemakers is explained by MOYNO'S exclusive *"progressing cavity"* principle. As shown at right and in the cutaway model above, a screw-like rotor revolves in a double-threaded stator to form progressing cavities which move all fluids smoothly and evenly through the pump. Corrosion is no problem because both rotor and stator can be made of special resistant materials.

MOYNOS are available in capacities up to 500 gpm; pressures up to 1000 psi. Off-the-shelf replacement parts are always immediately available. For details on how MOYNOS can undoubtedly cut costs and improve liquid handling in your plant, write today for Bulletin 30-TI.



ROBBINS & MYERS, INC.

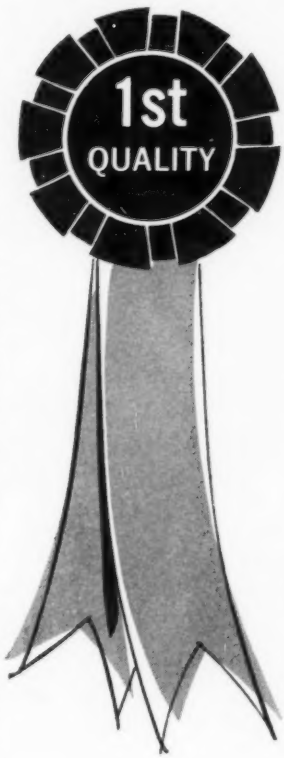
motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps

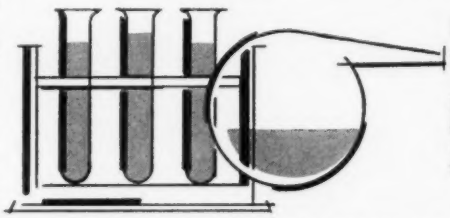
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO

YOU BENEFIT 5 WAYS

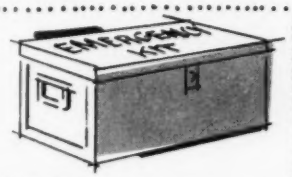
with SOLVAY CHLORINE!

PRODUCT You get chlorine made by America's foremost producer of alkalies. Outstanding in a line that has set the industry's standards!

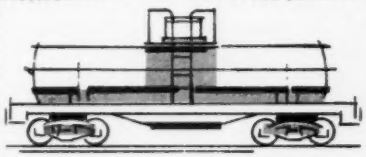




SERVICE You get the help of chlorine specialists in Solvay Technical Service working on your problems. Fast aid and expert literature in the use, handling and storage of chlorine for textiles, paper, water, sewage.



SAFETY You get safety programs and equipment pioneered by Solvay. Emergency Kits you can buy or borrow for cylinders, 1-ton containers, tank cars. Safety wall charts displaying vital unloading, handling, first aid facts.



PACKAGING You get Solvay® Liquid Chlorine in the package most convenient for you. Tank cars—32,000 lbs., 60,000 lbs., 110,000 lbs. Multiple unit cars of 15 1-ton containers. 150-lb. cylinders.

DELIVERY You get carload and l.c.l. orders speedily from production centers in Syracuse, N. Y., Moundsville, W. Va., Hopewell, Va., Brunswick, Ga., Baton Rouge, La. and a network of distribution points.

Sodium Nitrite • Calcium Chloride • Chlorine • Caustic Soda
Caustic Potash • Potassium Carbonate • Sodium Bicarbonate
Chloroform • Methyl Chloride • Soda Ash • Vinyl Chloride
Ammonium Chloride • Methylene Chloride • Carbon Tetrachloride • Snowflake® Crystals • Monochlorobenzene • Orthodichlorobenzene • Para-dichlorobenzene • Ammonium Bicarbonate • Hydrogen Peroxide • Aluminum Chloride • Cleaning Compounds • Mutual® Chromium Chemicals

Allied Chemical

SOLVAY PROCESS DIVISION

61 Broadway, New York 6, N. Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

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BQ-30

Please send me without cost these Solvay Technical Bulletins:

- ☐ #7—"Liquid Chlorine"
- ☐ #11—"Water Analysis"
- ☐ #8—"Alkalies and Chlorine in Treatment of Municipal and Industrial Water"
- ☐ #12—"The Analysis of Liquid Chlorine and Bleach"
- ☐ #14—"Chlorine Bleach Solutions"
- ☐ Chlorine Safety Wall Chart.
- ☐ Have your representative call.

Name _____

Position _____

Company _____

Phone _____

Address _____

City _____ Zone ____ State _____

A Southern textile mill faced a problem: how to keep oil in loom bearings, where it was wanted, and off the cloth, where it wasn't. The oil being used dripped, spoiled fabrics, and cut profits.

A Sinclair engineer recommended Sinclair NO-DRIP #15, combining a light-colored base oil for lubrication with special thickening agent to resist drip and throw-off. Now, cloth spoilage has been cut to a minimum, and lubricating costs reduced by one third. Let Sinclair solve your problem, too. Call your local representative or write

Sinclair

SINCLAIR REFINING COMPANY

TECHNICAL SERVICE DIVISION • 600 FIFTH AVE., NEW YORK 20, N.Y.

Designed for sight-seeing Americans by
George Carmel
in a wool check dyed with
National® Superchrome Black PV
and cross-dyed with
National® Alizarine Cyanone Green 4G

Another versatile, new dye from National Aniline . . .
NATIONAL ALIZARINE CYANONE GREEN 4G

Applied neutral or in a weakly acid bath, this new American-made dye is comparable in fastness to neutral premetallized dyes, with good overall wet fastness and exceptional resistance to light.

National Alizarine Cyanone Green 4G produces handsome self-shades of bright, yellowish green in light and medium tones to rich, deep shades. It is recommended as well for shading both chrome and neutral premetallized dyes.

Samples and data on request.

NATIONAL ANILINE DIVISION
40 RECTOR STREET, NEW YORK 6, N. Y.
Atlanta Boston Charlotte Chicago Greensboro Los Angeles
Philadelphia Portland, Ore. Providence San Francisco
In Canada: ALLIED CHEMICAL CANADA, LTD., 100 North Queen St., Toronto 18
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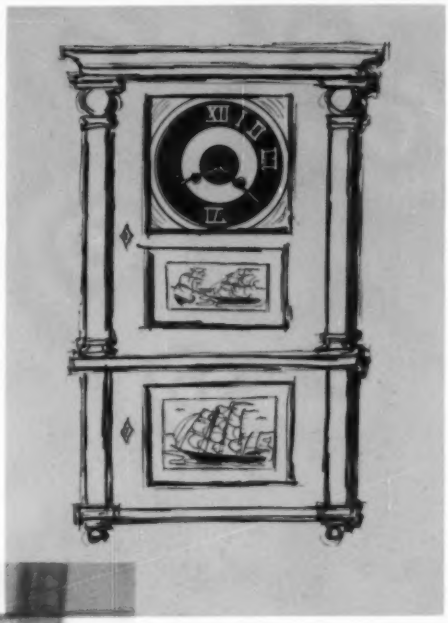
Allied Chemical

IT'S TIME TO *CUT COSTS!*

FOR THE MOST EFFICIENT DYEING & BLEACHING EQUIPMENT, INSIST ON

MORTON SYSTEM



CONNECTICUT SHELF CLOCK, circa 1830
C. & N. JEROME
Bristol, Conn.

Morton System Dyeing Machinery is built to take tough treatment. Careful planning, precision engineering and skilled workmanship all work together in the Morton System.

You can count on more efficiency and level shades on cotton, wool, or synthetics.

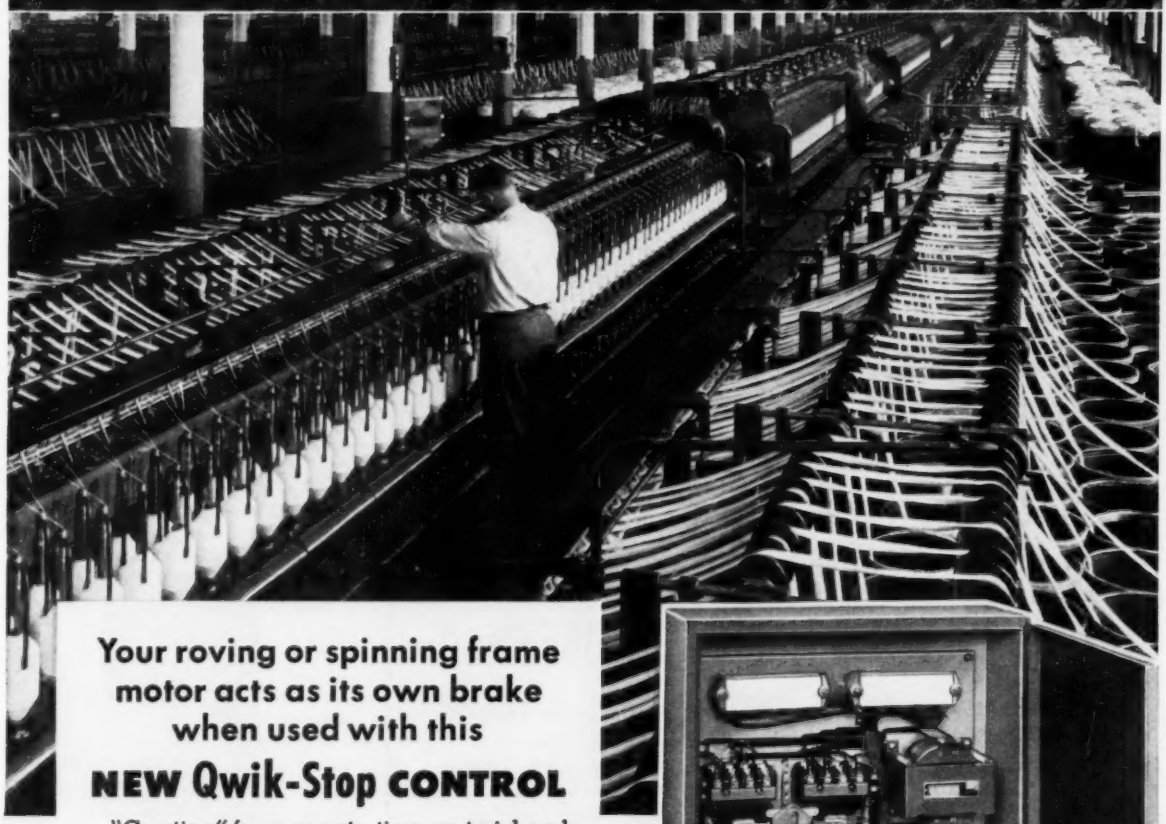
MORTON
MACHINE WORKS, Inc.

COLUMBUS, GEORGIA U.S.A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:
BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES • PUMPS • BEAM AND PACKAGE EXTRACTORS AND DRYERS • DYE BEAMS, ALL MAKES AND DESIGNS • DYE TUBES • DYE SPINDLES • TUBE SPACERS • STAINLESS STEEL DYE TUBES • CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS

EASY, FAST CURE FOR "COASTING" FRAMES!



Your roving or spinning frame motor acts as its own brake when used with this

NEW Qwik-Stop CONTROL

"Coasting" frames waste time, material and money. But it's often difficult and expensive to add conventional brakes to existing frames.

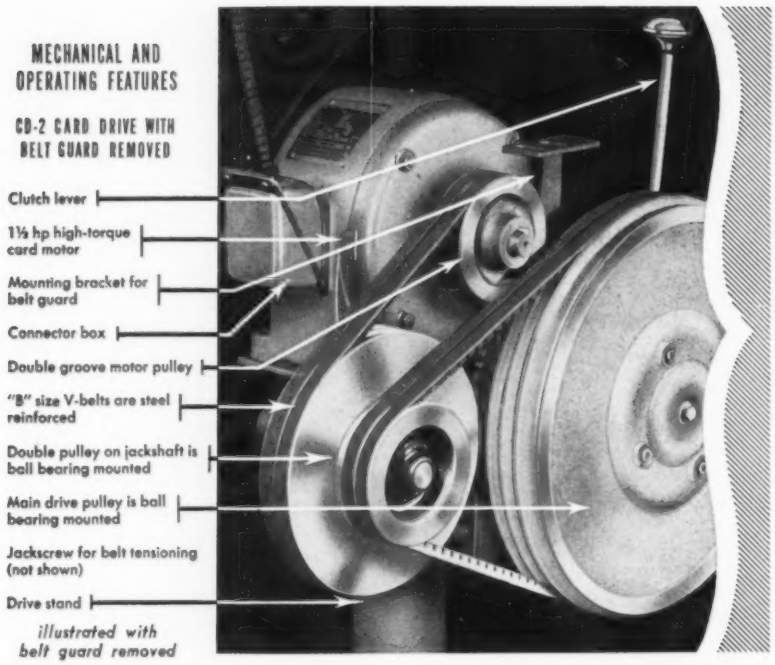
This new **Qwik-Stop** electric braking control is the answer. It requires no frame modification. Simply replace your motor starter with this unit and *presto*—you have brakes. A wide variety of braking torque is available by a simple jumper reconnection. Dependable timing of braking cycle with easily adjusted pneumatic timer.

***Write** for Bulletin 8922 which gives the complete story. Address Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin.*

This **Qwik-Stop** unit provides complete control for starting, protecting and braking roving or spinning frames.

SQUARE D COMPANY

wherever electricity is distributed and controlled


MECHANICAL AND OPERATING FEATURES
CD-2 CARD DRIVE WITH BELT GUARD REMOVED
Clutch lever
1½ hp high-torque card motor
Mounting bracket for belt guard
Connector box
Double groove motor pulley
"B" size V-belts are steel reinforced
Double pulley on jackshaft is ball bearing mounted
Main drive pulley is ball bearing mounted
Jackscrew for belt tensioning (not shown)
Drive stand
illustrated with belt guard removed

ONLY SOUTHERN STATES TYPE CD-2 INDIVIDUAL DRIVE FOR COTTON CARDS OFFERS ALL THESE FEATURES

The CD-2 Individual Card Drive is the simplest, safest, and most efficient drive on the market today. It combines into one unit the features most wanted by mill men when specifying a drive for cotton cards. Here is why:

Finger-Tip Control: No changes in operating procedure. The unit is controlled by a simple clutch lever in both starting and hand stripping.

Full Speed in Seconds: A 1½ hp high torque card motor smoothly brings the card into full operation, seconds after the clutch is engaged.

Safety Engineered: All belts and moving parts are covered. Starting and idling is accomplished by the clutch lever. Stripping is done in the conventional manner.

Rugged Construction: The entire unit is built for heavy-duty service: steel main stand; cast iron jackshaft bracket and main pulley; cast aluminum cover; ball bearing construction throughout.

Easy Installation: Fits any cotton card. Minimum number of holes to drill in frame. Drive pulley, collar and clutch are preassembled and slip on shaft using existing keyway.

See your Southern States representative for all the facts, or you may write direct for Bulletin 301-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

PERSONAL NOTES

Joe Dale has been named superintendent of the Knit-Sox Knitting Mills, Inc., Hickory, N. C.

Bob Armstrong has been named to head the operations at Jeffries Southern Processors, Inc., Albemarle, N. C., knitgoods dyeing and finishing plant which is expected to begin operation in the near future.

Members of the Junior Chamber of Commerce in Albemarle, N. C., have named as "Man of the Year" **P. H. Chance,** vice-president of Collins & Aikman Corp. and general manager of the firm's automotive fabrics division.

B. H. Stumberg, agent of the Tallassee (Ala.) Mills division of Mount Vernon Mills, Inc., has retired.

"Stumberg Appreciation Day" was held recently by the "entire town" of Tallassee, at which time Mr. Stumberg was cited for his many contributions to the town and the textile industry, and was presented a check for more than $3,000 by the town officials. * * * **J. Wilson Patterson,** superintendent, has been named to succeed Mr. Stumberg, and **Virgil F. Redden,** assistant superintendent, has been appointed superintendent.

Russell Coley, formerly with the Freehold, N. J., division of A. & M. Karageusian, Inc., has been transferred to the Albany, Ga., division as maintenance supervisor.

E. A. Freeman, chief chemist of the Trion, Ga., division of Riegel Textile Corp., has been promoted to overseer of finishing. **William D. Inabnit,** who has been associated with development laboratories at the

Ware Shoals, S. C., division, has been named chief chemist for the Trion division.

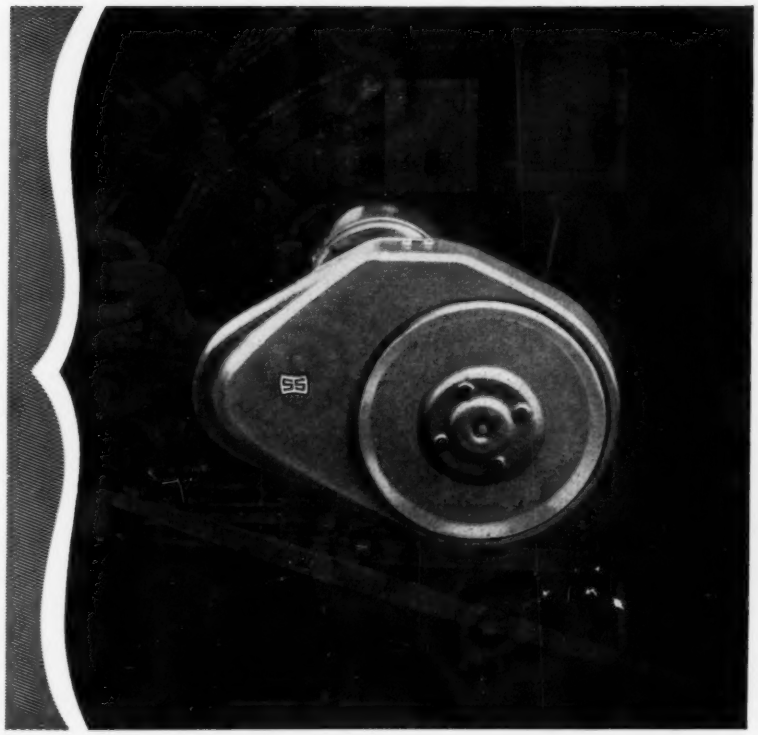
Boutwell H. Foster has retired after 42 years of service in the textile division of United States Rubber Co. Inventor of a number of textile fabrics and process improvements, Mr. Foster was commended by company officials for his record of 42 patents.

They said his laboratory achievements have created jobs for hundreds of people and brought the company millions of dollars in sales. In recognition of his adaptation of a three-dimensional fabric for use in an artificial lung, Mr. Foster was recently appointed a research associate in the surgical research laboratory of the Bronx Veterans Administration Hospital and the Albert Einstein College of Medicine in New York.

At the annual meeting of the National Association of Finishers of Textile Fabrics held in New York recently, **Godfrey S. Rockefeller,** Cranston (R. I.) Print Works, was elected president. Mr. Rockefeller succeeds Lawrence Marx, Jr., United Merchants & Manufacturers, Inc., Clearwater, S. C., who was elected chairman of the executive committee. Other officers include: vice-presidents—**Richard Wood, Jr.,** of Millville (N. J.) Mfg. Co. and **Ernest J. Chornyei** of Bradford Dyeing Association. **Joseph E. Hoesl,** association secretary, was reelected treasurer.

Charles E. Baxter, assistant secretary of J. P. Stevens & Co., Inc., has retired. Mr. Baxter served as assistant to the executive vice-president in charge of the synthetics division in Greensboro and as director of public and industrial relations for the synthetic division.

Continued on page 184



SOUTHERN STATES CD-2 CARD DRIVE COMBINES INTO ONE UNIT ALL OF THE FEATURES WANTED FOR COTTON CARDS

Here is why we honestly believe the Southern States CD-2 Card Drive is the safest, simplest, most efficient individual drive on the market today:

Finger-tip control. No changes in operating procedure. Unit is controlled by simple clutch lever in both starting and hand stripping.

Full speed in seconds. A 1½ hp high torque card motor brings card into full operation, seconds after clutch is engaged.

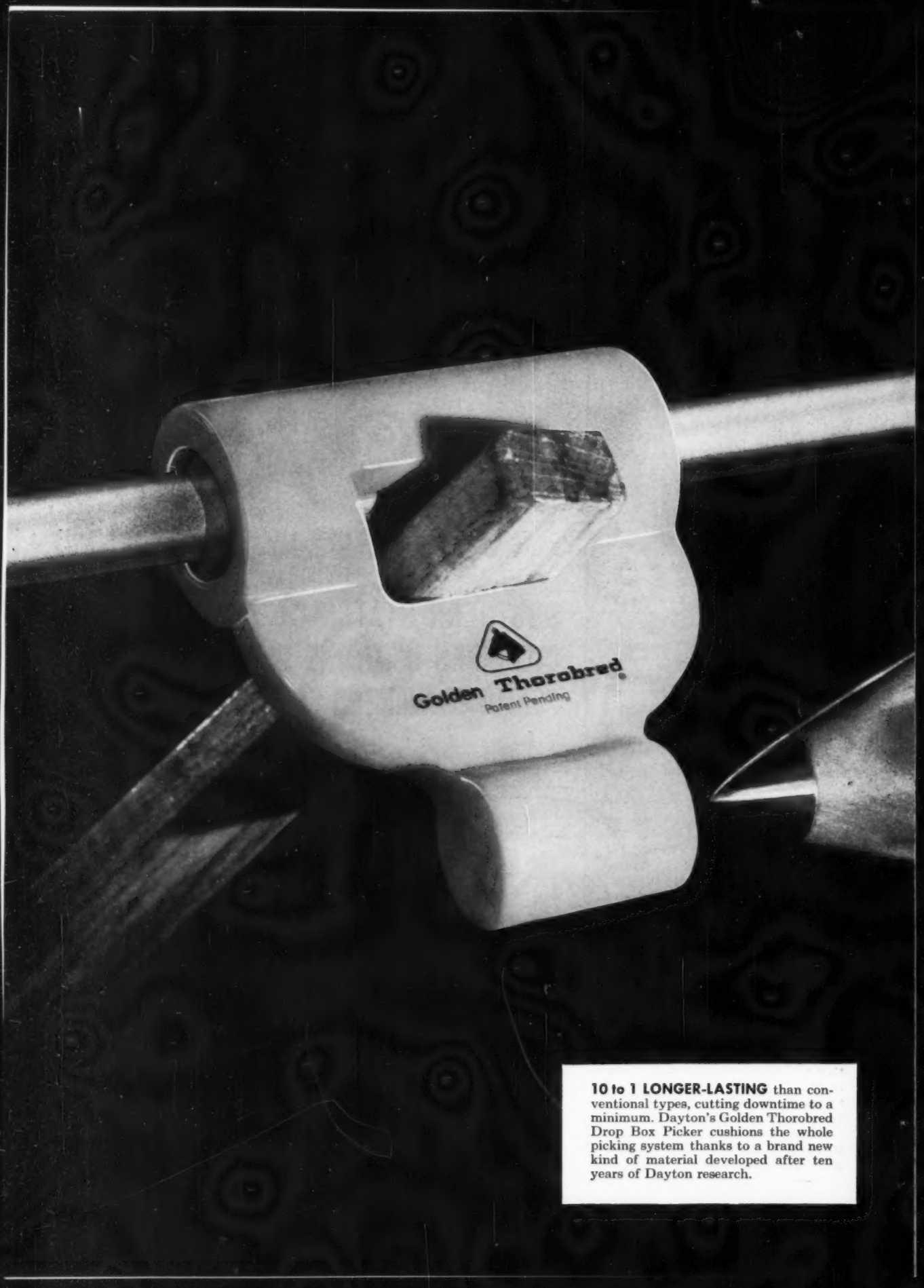
Safety engineered. All belts and moving parts are covered. Starting and idling is accomplished by simple clutch lever.

Rugged construction. The entire unit is built for heavy-duty service: steel main stand; cast iron jackshaft bracket and main pulley; cast aluminum cover. Ball bearing throughout.

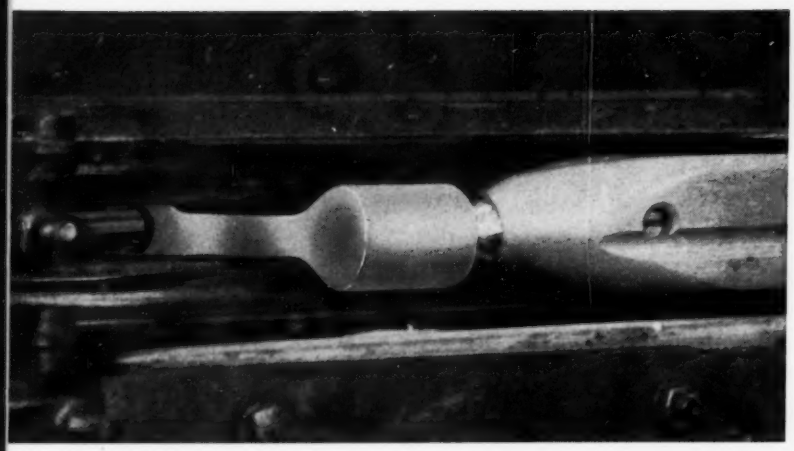
Easy installation. Fits any cotton card. Minimum number of holes to drill in frame. Drive pulley, collar and clutch are preassembled and slip on to shaft using existing keyway.

Get the facts from your Southern States representative or write for Bulletin 301-a.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

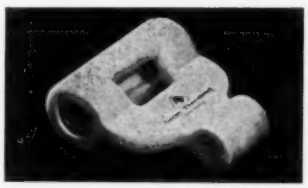


10 to 1 LONGER-LASTING than conventional types, cutting downtime to a minimum. Dayton's Golden Thorobred Drop Box Picker cushions the whole picking system thanks to a brand new kind of material developed after ten years of Dayton research.



EVERY WEAR POINT is cushioned by amazing elastomer properties of the Golden Thorobred. This amazing cushioning protects the shuttle from wear and the shuttle-point from loosening. Yet it withstands today's increased punishment from heavier shuttles. It cuts wear on the picker stick, too, with shock-absorbing qualities that take terrific impacts, minimizing breakage and repair parts costs.

REPLACEABLE BUSHINGS QUADRUPLE LIFE of Dayton's Golden Thorobred. Dayton's smooth-running Daylube bushings are easily and economically replaced to give Dayton's Golden Thorobred Drop Box Picker record performance, performance unheard of only a few years ago.



OUTLASTS OLD STYLE DROP BOX PICKERS 10 TO 1

Dayton research revolutionizes Drop Box Picker performance

Dayton's Golden Thorobred Drop Box Picker is amazing mill superintendents and overseers in test after test, outlasting all conventional types 10 to 1 and out-performing them in economies. The Golden Thorobred is a real step forward in savings in loom downtime and picker replacement cost—a real dollar-saver that sets new economy records.

Test out Dayton's Golden Thorobred Drop Box Pickers through your local Dayton jobber or write for booklet from the Dayton Rubber Company, Textile Division, 401 South Carolina National Bank Bldg., Greenville, S. C.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving.

OVERSEAS PLANT: THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND.

New Elastomer makes big change in Drop Box Pickers

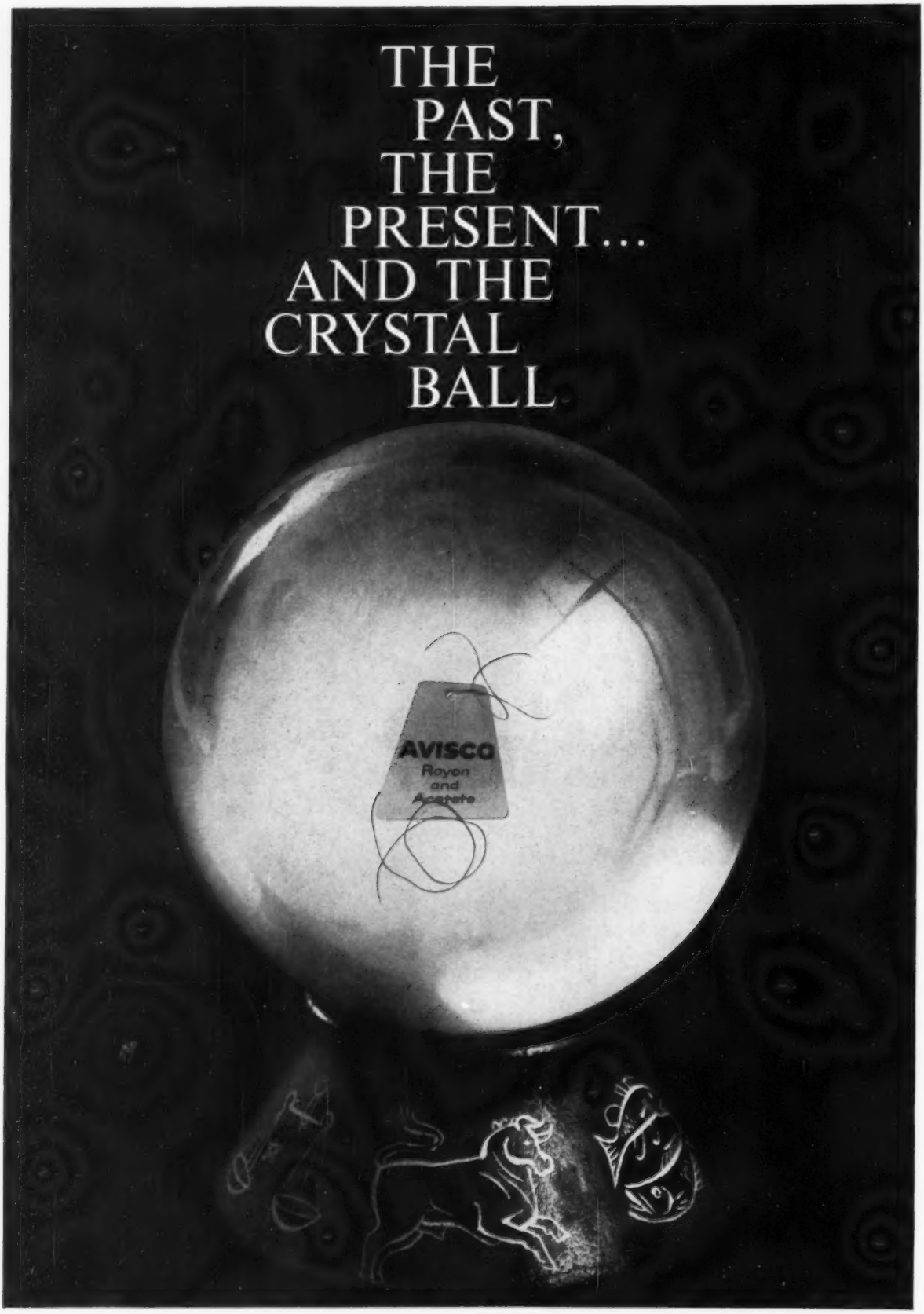
• • •

THE PASSING of one old timer and the restoration of another is the story behind the formulation of Dayton's Golden Thorobred Drop Box Picker. For, with the coming of this virtually indestructible new elastomer, the costly, old-time raw-hide picker made of water buffalo is now retired to the museums.

But, sometimes the coming of the new can *restore* the old, too. For all the toughness of the new Golden Thorobred Drop Box Picker—10 to 1 over all conventional kinds—it is gentle enough to permit the return of the hickory stick, replaced so extensively by the rigid laminates. This is a real boost to weaving because the slight whip of hickory is of great help to the shuttle. In the old days, abrasive pickers could cut the hickory in two.

The unusual "give" of the Golden Thorobred explains its longer-life and the elimination of so much of the downtime caused by ordinary pickers. Its cushioning action spares cast iron parts, too, a problem cost-finders and maintenance men long sought to have solved. And, of course, its capacity to absorb the punishment of today's heavier shuttles is one of its prime features.

Textile men also like the fact that Dayton's Golden Drop Box Picker bears a "Made in America" brand-mark in these days when textile imports of all kinds are effecting the market.


THE
PAST,
THE
PRESENT...
AND THE
CRYSTAL
BALL
AVISCO
Rayon
and
Acetate

Fifty years ago, American Viscose Corporation became the first commercially successful rayon producer in the United States. While the yarn was brittle and weak by today's standards, and only 362,544 pounds of it were made the first year, the venture was a success from the start. We'd like to pause for a few moments at this—the beginning of our 50th Anniversary year—to name a few highlights in our progress which may be of special concern to you. The growth of Avisco rayon has outrun all expectations. There is now 8 times as much rayon used in blends as any other man-made fiber. And of this amount, Avisco rayon's share is well over 1000 times what we produced in our first year. Much of rayon's success can be credited to extensive research pin-pointed to engineer rayon and acetate fibers to fit specific end uses. **AVISCO ACETATE** was first used in apparel . . . crepe dresses, lingerie, linings. More recently, it has found a place in the home furnishings field especially for curtains and draperies. In 1959, American Viscose developed a new acetate fiber especially for draperies. Fiber 25, as it is known, gives additional bulk, a firmer, crisper hand, an iridescent luster and makes possible unusual textures. **AVICRON®** rayon, a latent crimped rayon filament yarn, has the unusual property, when relaxed, of drawing into a tighter curl with each washing. This phenomenon opens up a whole new world of texture possibilities. Avicron is now used principally for tufted bedspreads and accent rugs. **COTRON**[1] fabrics are made of cotton and Avisco rayon. The Avisco rayon in the blend adds to the cotton a luxury of hand and drape, and a clarity and brightness of color. **AVRON*** high strength rayon was announced only a few months ago, but is already being used extensively in apparel and home furnishings. 100% Avron or Avron in blends has a luxury hand and such strength as to make possible fine-count fabrics which will accept resin finishes. Avron is a major breakthrough in fibers, has important advantages, and is highly promotable. **SUPER L*** carpet rayon, the new Avisco smooth carpet fiber, is distinguished for its long wear and soil resistance. It can be blended with wool, nylon or acrylics. **COLORSPUN*** solution dyed fibers are popular for apparel, home furnishings, automotive and industrial products. American Viscose produces a complete line of Colorspun rayon filament yarns and staple fiber and Colorspun acetate filament yarns. **THE AVISCO INTEGRITY TAG** is awarded to fabrics made with Avisco rayon and acetate fibers, which, by virture of their construction, fiber content, and performance, meet the quality control standards of the Avisco Integrity Program. It would be interesting to know what is ahead. What we can tell you, without benefit of crystal ball, is that our Research & Development people are working on many new fibers, as yet unnamed, which will be announced during this anniversary year.

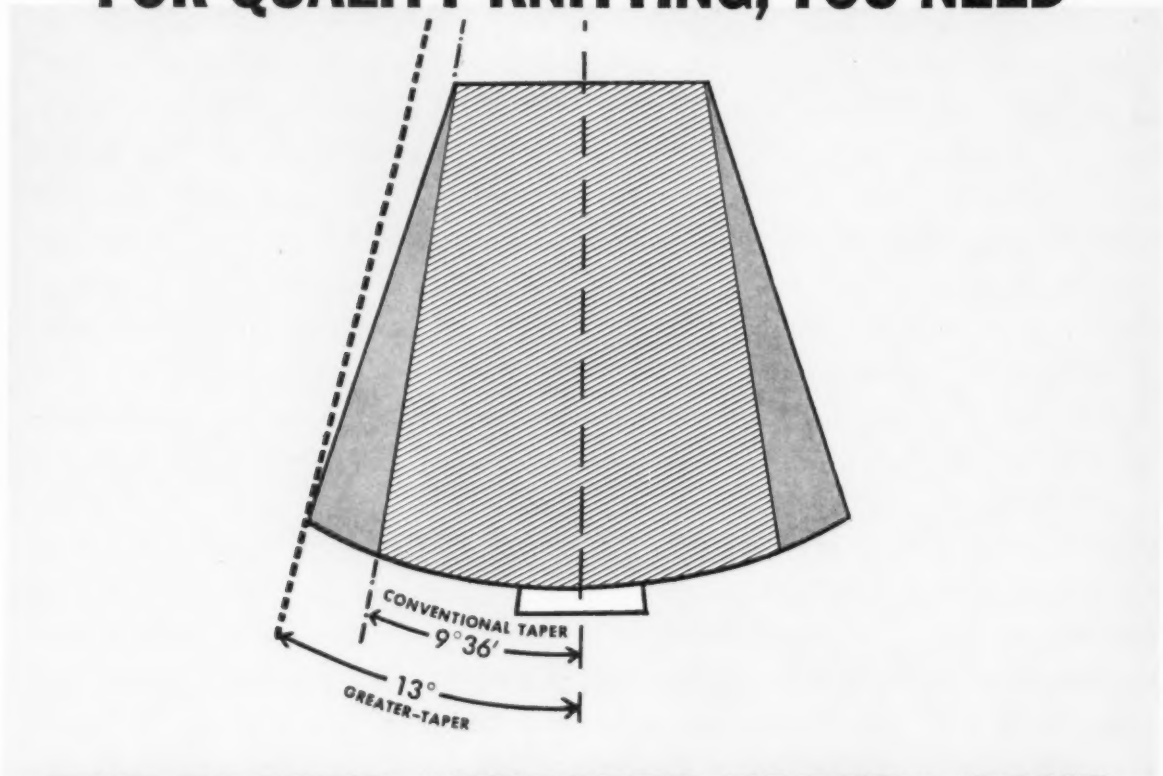
AVISCO

AVISCO®

Rayon • Acetate • Cellophane

[1] TM AVC for fabrics made of cotton and Avisco rayon
*Trademark of American Viscose Corporation
AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, New York

FOR QUALITY KNITTING, YOU NEED



THE FOSTER "GREATER-TAPER" CONE

OTHER ADVANTAGES OF MODEL 102

1. Convex base of cone also prevents snags.
2. Highly efficient slub catchers automatically inspect yarns.
3. Ribbon breaker prevents ribbon wind.
4. Idler shell on winding drum prevents chafing.
5. Doubles production and reduces operating costs ⅓ over obsolete machines.
6. Repair costs as low as $10 per year per 100 spindles.
7. Yarn conditioning attachment if desired.

Tight stitches, in a knitted fabric, caused by snags, do not make for quality merchandise.

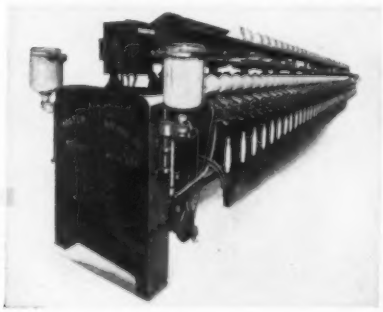
You can eliminate or minimize tight stitches by using a cone that permits the yarn to clear the nose on its way to the needle, even when the cone is full.

The Foster Model 102 "Greater-Taper" Cone does just this, because, although starting out with a 9° 36′ taper, it ends up with a 13° taper.

If you spin sales yarn for knitting, use the Foster Model 102 winder to give knitters the cone they need. If you wind cones in your own plant, the Foster Model 102 will give you cones that your knitting machines need.

Bulletin A-95-A on request

THE FOSTER MODEL 102 WITH YARN CONDITIONING ATTACHMENT



ATMA
American Textile Machinery Exhibition - International
Parade of Progress
ATLANTIC CITY, U.S.A.
MAY 30-JUNE 1960

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

SOUTHERN OFFICE — Johnston Bldg., Charlotte, N. C. • **CANADIAN REPRESENTATIVE** — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ont. • **EUROPEAN REPRESENTATIVE** — Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton-under-Lyne, Lancashire, England.

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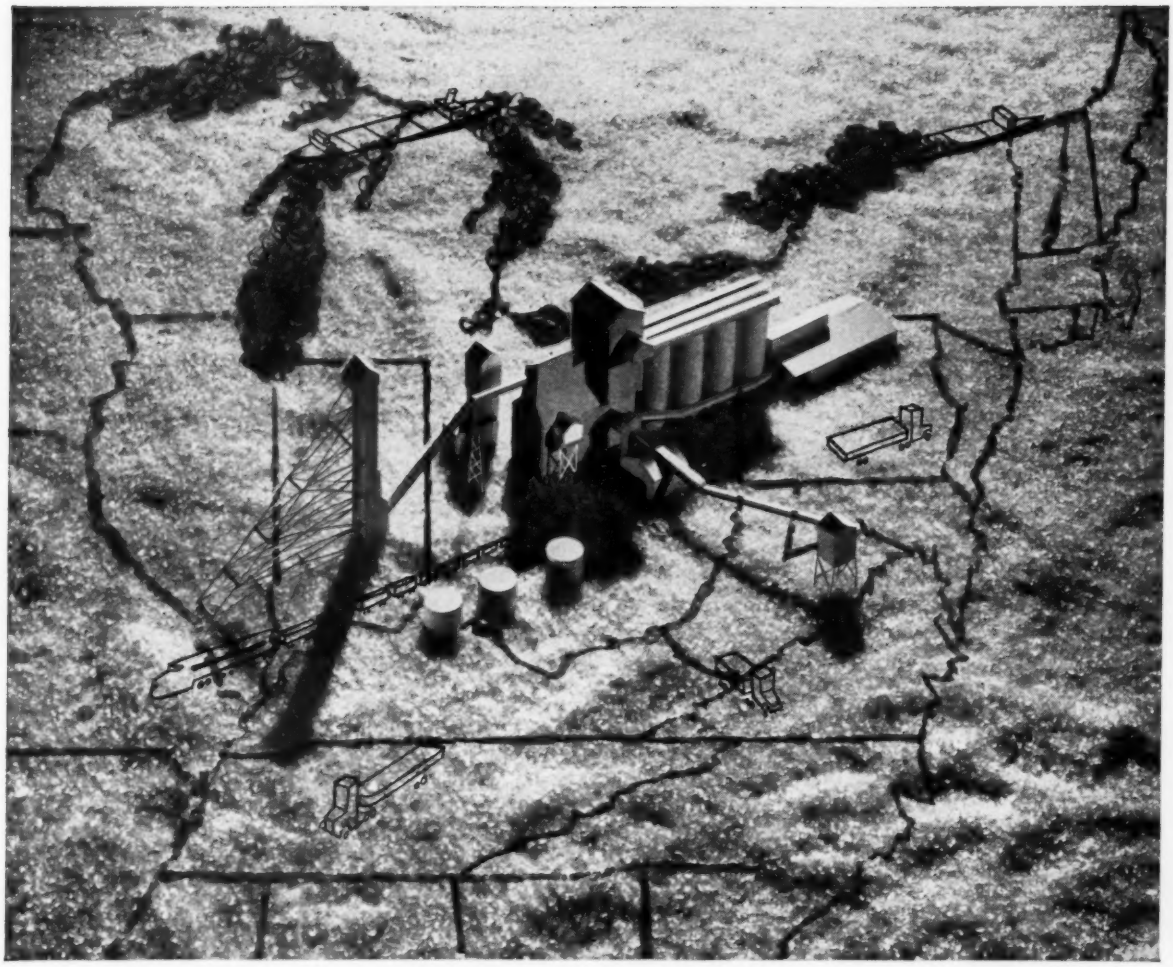


Morton's Fairport mine offers the textile industry a new, domestic source of rock salt

Located 29 miles east of Cleveland on Lake Erie, Morton's new Fairport Mine offers a convenient new source of rock salt for textile uses. This new mine can deliver rock salt by boat, truck and rail, whichever way is the fastest, most economical way to serve you.

The new Fairport Mine is but one of Morton's four strategically located American sources of rock salt that assure Morton customers prompt, dependable delivery regardless of mill size or location.

Salt and service for every need

In addition to rock salt, Morton produces several high purity grades of evaporated salt for dyeing operations. Morton Chemical Grade '999', for instance, is recommended whenever commercial calcium free salt is required. As the only nationwide salt company, Morton can supply the kind of salt and service you require.

MAIL COUPON TODAY!

☐ Please have a Morton representative contact me about Morton's Rock Salt Service.

☐ I also would like additional information about Chemical Grade '999.'

Name _____
(Please Print)

Title _____

Company _____

Address _____

City _____ *Zone* _____ *State* _____

MORTON SALT COMPANY

INDUSTRIAL DIVISION

Dept. TI-3, 110 N. Wacker Drive, Chicago 6, Ill.

UNIFIL
UNIFIL
UNIFIL
For Mills Who
Set The Pace In New
UNIFIL
UNIFIL

Weave rooms in which today's newest and most imaginative fabrics take shape are those that UNIFIL® Loom Winders are making *more versatile.* UNIFIL Loom Winders permit the use of a wider variety of filling yarns: natural and synthetic; spun, filament, and textured. They enable weave rooms to switch filling yarn quickly and *economically* from one count to another . . . from one fabric to another — as style change demands. What's more, they improve *quality* — give fabrics with *textured* yarn filling a uniformity never before possible.

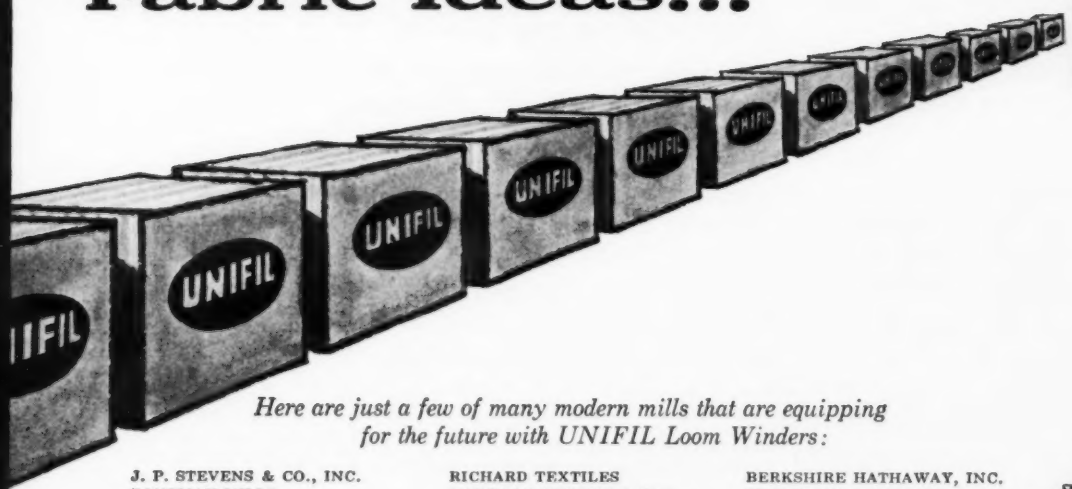
These are only a few of the reasons why today's leading textile manufacturers consistently reorder UNIFIL Loom Winders. They get all the other advantages of weaving-from-a-cone too, because quills are wound and shuttles loaded, empty quills stripped and returned for rewinding . . . all *automatically* right at the looms!

Find out what this *inherently better* method of filling yarn preparation can do for *your* weaving operations. A LEESONA "Profit Factor Analysis" will show you. Ask your LEESONA Sales Engineer in Boston, Philadelphia, Charlotte, Atlanta, or Los Angeles. In Canada: Montreal or Hamilton.

Or write LEESONA CORPORATION, P. O. Box 1605, Providence 1, R. I.

Fabric Ideas...

LEESONA



Here are just a few of many modern mills that are equipping for the future with UNIFIL Loom Winders:

J. P. STEVENS & CO., INC.
PONEMAH MILLS
DRAYTON MILLS
JUDSON MILLS
UNITED MERCHANTS & MFRS. INC.
GLEN RAVEN SILK MILLS, INC.
BURLINGTON INDUSTRIES, INC.
EXPOSITION COTTON MILLS CO.
GREENWOOD MILLS
FRANK IX & SONS, INC.
MARION MFG. COMPANY
WILLIAM SKINNER & SONS
STRASBURG TEXTILE MILLS, INC.
AMEROTRON COMPANY
WOODSIDE MILLS
SPARTAN MILLS

RICHARD TEXTILES
CADILLAC TEXTILES, INC.
CANADIAN CELANESE, LTD.
CHRYSLER MILLS, INC.
CONSOLIDATED TEXTILES, LTD.
KALCO WEAVING CORP.
MARVEN LOOMS, INC.
PAXON FABRICS CORP.
PANSY WEAVING MILLS
PEPPERTON COTTON MILLS
RIVERSIDE MILLS

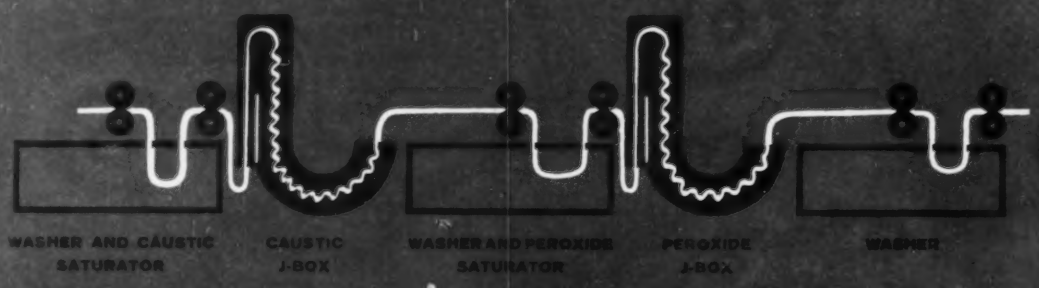
BERKSHIRE HATHAWAY, INC.
STANWOOD MILLS, INC.
STARR MILLS CORP.
WAUMBEC MILLS, INC.
GALLANT MFG. CO.
CARTHAGE FABRICS CORP.
ABDON TEXTILES INC.
DOVER MILLS GROUP
TALLASSEE MILLS
MACHIAS MILL INC.
WELDON MILLS, INC.

Versatility with Any Filling Supply

From Du Pont—originator of Solo-Matic* Bleaching

Two new cost-cutting

1. NEW RAPID BLEACH



ADVANTAGES

- Cuts cloth storage time to as low as 8 minutes in each J-box
- Cuts J-box costs up to 75%
- Eliminates bruises, rub marks, creases
- Reduces headroom up to 50%

DESCRIPTION

Rapid Bleach is a new continuous process for medium to heavyweight fabrics that can improve bleaching quality. It's a fast bleaching process that incorporates the caustic pre-treatment in the first J-box. This process is simple, compact, continuous and reduces mechanical handling operations. Rapid Bleach can be adapted to any continuous or semi-continuous open-width system. It can be used for medium-weight cotton fabric and is especially suitable for hard-to-handle heavyweight fabrics that are susceptible to bruising.

HOW YOU CAN PROFIT FROM DU PONT'S PROCESSES . . . SERVICES . . . PRODUCTS

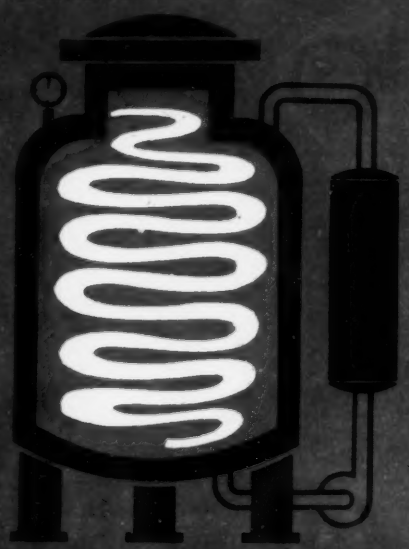
Whether or not you use any one of the Du Pont developed bleaching processes, you can count on the advice and help of an experienced Du Pont Technical Representative. He will help you with any bleaching problem that might arise or, if you wish, he can conduct a confidential survey of your entire bleachery to pinpoint where and how you can save money, improve bleaching.

Du Pont bleaching agents ensure excellent uniformity and high bleaching efficiency. All are thoroughly tested and proved by successful mill experience. All are available from convenient shipping points. Du Pont offers modern bleaching processes, technical services and quality products to help you keep *your* bleaching quality high—and your costs low. Use them and profit!

ALBONE® hydrogen peroxide SOLOZONE® sodium peroxide PEROXO® sodium

bleaching processes

2. NEW PRESSURE BLEACH

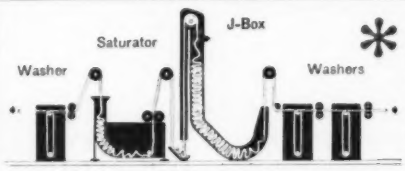


ADVANTAGES

- **Reduces process time up to 50%**
- **Doubles production in the same space**
- **Uses present equipment**
- **High-quality bleaching**

DESCRIPTION

This new high-speed bleaching process for kiers and package machines is a pressurized or high-temperature system that eliminates the need for caustic boil pre-treatment. The Pressure Bleaching process is used in cases where a plant's output or space does not warrant a continuous setup . . . can be easily adapted to present equipment. All types of cotton fabric, yarn and raw stock can be bleached uniformly at the lowest cost.



DU PONT SOLO-MATIC is an advanced single-stage process for high-speed rope-form bleaching. It can double your production in the same floor space or maintain the same production in half the space. Solo-Matic is now helping more than 25 major mills improve bleaching quality and trim costs. With the addition of Rapid Bleach and Pressure Bleaching, Du Pont processes cover all phases of cotton bleaching. No matter what your needs, Du Pont has a modern process to help you.

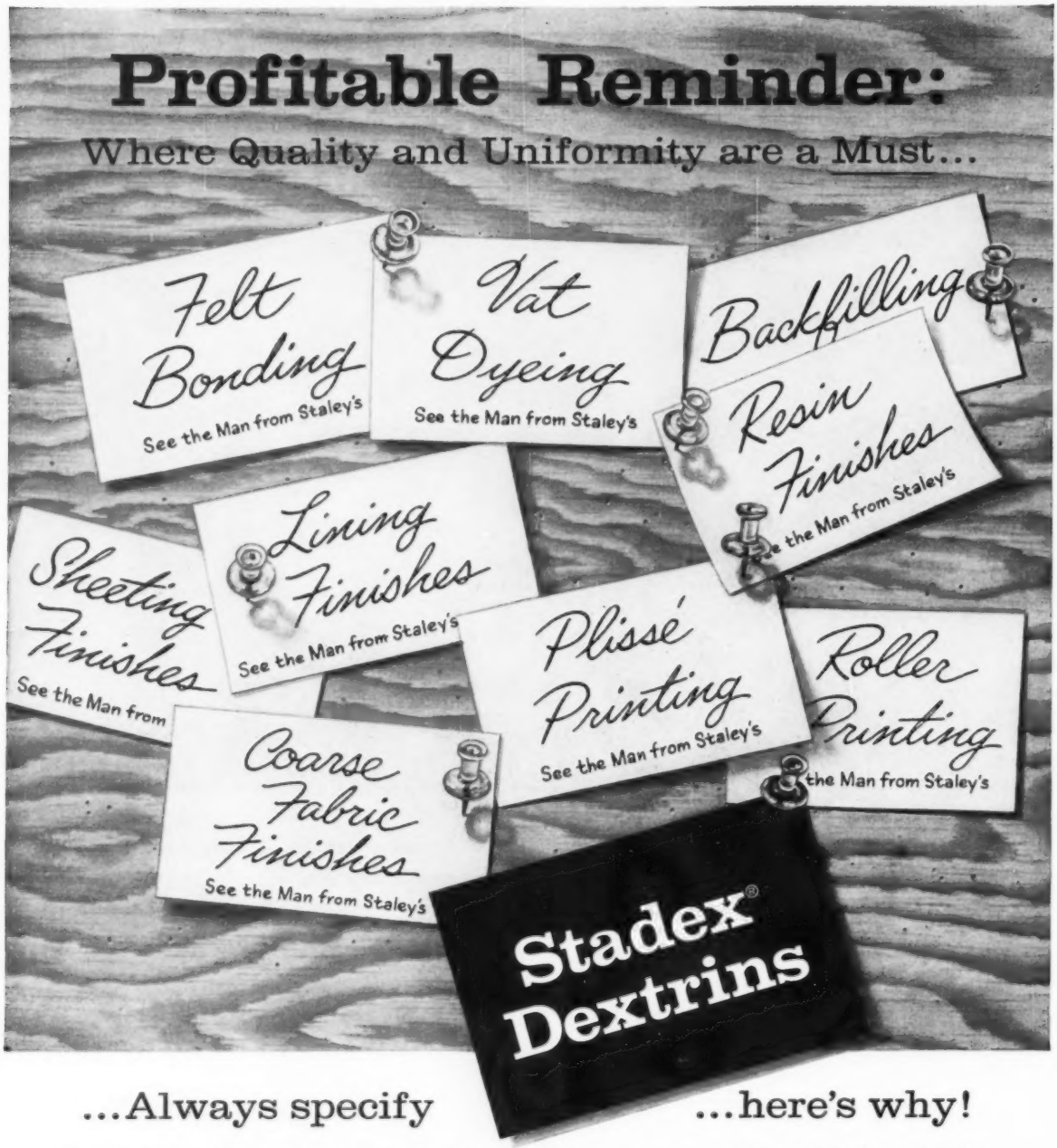
For more information, write or call:

E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department
Peroxygen Products Division, Wilmington 98, Delaware

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

perborate perhydrate **OXONE**® monopersulfate compound **SODIUM PERBORATE**



...Always specify ...here's why!

In critical applications, like the nine listed above, variables must be reduced to the minimum if you are to consistently get uniform quality results. And there's no better way to insure uniformity throughout your operations than with Stadex Dextrins.

How is this possible? Staley's has developed an exclusive new process for manufacturing dextrins. And because of this new process, Stadex Dextrins possess a *degree of uniformity not found in other dextrins.*

In printing, finishing, bonding, dyeing—whatever your application . . . whether your requirements call for white or canary dextrins or British gums, remember this: Stadex Dextrins assure you of unsurpassed uniformity, highest quality and minimum color in a complete line *tailor-made* to meet your exact specifications.

For all the details on how Stadex Dextrins can improve your own specific process, see your Staley Textile Representative at the branch office nearest you or write today to:

Staley's®

A. E. STALEY MFG. CO., DECATUR, ILL.

Branch Offices: Atlanta • Boston • Chicago • Cleveland • Kansas City
New York • Philadelphia • San Francisco • St. Louis

Huge 96" Acid Fume Fan—210,000 cfm "Buffalo" Axial Flow Fan with cast aluminum wheel, installed in a textile mill.

In Stack Hood Exhaust — Easy installation is a big advantage of the duct-size "Buffalo" Axials mounted in these stacks. Hoods give all-weather protection.

FOR TOP AXIAL FLOW FAN EFFICIENCY— IN BIG JOBS OR SMALL—

SPECIFY "BUFFALO" AXIALS

"Buffalo" Axial Flow Fans provide extremely quiet and efficient performance. This inherent efficiency is further improved by the "Buffalo" Vaneaxial outlet guide vanes. These carefully engineered vanes re-direct the swirling air at the fan outlet, converting it into increased forward thrust.

These sturdy, reliable fans are light in weight, permitting easy installation. Except for the largest models, no structural support or heavy foundation are required. "Buffalo" Axials can be installed as a section of the duct or stack in hood and other roof exhaust systems.

Duct-size "Buffalo" Axials save space by fitting in close to walls or ceilings. Space-saving installations include service as ventilation, exhaust and industrial air conditioning supply fans. They are widely used for applications ranging from paint spray booth exhaust to boiler room cooling.

"Buffalo" Axial Flow Fans are available for high or low temperatures, corrosive fumes, explosive atmospheres and other severe conditions.

Investigate the many advantages offered by "Buffalo" Axial Flow Fans. Contact your nearby "Buffalo" engineering representative, or write direct for Bulletin 3533-EF.

"Buffalo"

BUFFALO FORGE COMPANY

175 Mortimer St. • Buffalo, N. Y.

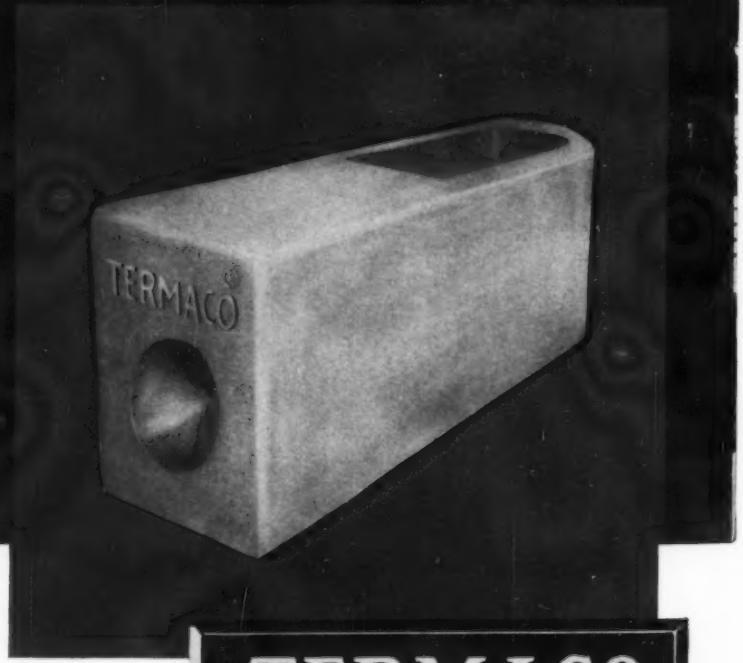
Buffalo Pumps Division • Buffalo, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING
FORCED DRAFT COOLING HEATING PRESSURE BLOWING

PREMIUM *Performance*

No Premium Price



Only ® TERMACO

LIGHT COLORED PICKERS

GIVE YOU BOTH

Mill tests prove there is no better rubber and fabric picker AT ANY PRICE.

Request samples for trial in your mill.

THE TERRELL MACHINE COMPANY, INC.

POST OFFICE BOX 928 • CHARLOTTE, NORTH CAROLINA • 3000 SOUTH BOULEVARD

MADE BY — DENMAN RUBBER MFG. CO., WARREN, OHIO.

NEWS IN BRIEF

Time to Make ATME Reservations. Invitations to attend the American Textile Machinery Exhibition-International have been sent

out to textile executives all over the world by the show's sponsors, American Textile Machinery Association. The Exhibition will be held at Atlantic City, N. J., May 23-27. Those planning to attend—and no textile executive should miss it—are strongly urged to make their hotel reservations right away. Reservation forms were in-

cluded with the invitation; additional copies may be obtained from the exhibition manager, Albert C. Rau, Campbell-Fairbanks Associates, 332 Park Square Building, Boston, Mass., or from ATMA's executive secretary, Mrs. Mildred G. Andrews, P. O. Box 596, Vienna, Va. Admission to the Show will be by ticket only; these may be obtained from the addresses given, or from the Editors of TEXTILE INDUSTRIES.

To Test Automatic Doffer. Willcox & Gibbs Sewing Machine Co. reports that prototype production models of an automatic spinning frame doffing machine will be available this spring, and will be used for field tests and mill demonstrations. If these are satisfactory, production is planned for next fall. [Willcox & Gibbs have purchased the rights to this doffer from a Spanish company. It was demonstrated last summer at the Trion, Ga., plant of Riegel Textile Corp.—SEE TEXTILE INDUSTRIES for Sept., 1959, p. 83.]

Set-Aside Suspended. Military Clothing and Textile Supply Agency has suspended the Eighty-Hour Set-Aside Procedure for knitting mills until January 1, 1961, with indications that it may be cancelled entirely before that date. The procedure restricted bids on many hosiery procurement contracts to mills which did not operate more than 80 hours per week. It was established in 1952 to ease unemployment in labor surplus areas.

Waste Plant May Be Tax-Deductible. A woolen mill whose wastes were polluting a nearby stream was faced with the prospect of being shut down by court order. At the request of state authorities, the mill built a waste filtration plant. The mill then claimed the cost of the plant as a tax-deductible business expense, rather than capitalizing it. Internal Revenue Service disallowed the deduction, but a Pennsylvania Federal District Court upheld the mill. The expenditure, the court agreed, was for current maintenance to keep the mill going, as contrasted with a capital outlay to improve or add to it.

Mill Spending Soars. The textile-mill products industry will spend $128 million for new plant and equipment during the first

quarter of 1960, the U. S. Department of Commerce estimates. This is the same as the amount spent in the last quarter of 1959, and up 39.1% over the figure for a year ago.

Hot Dye Bath Better for DDT. Dye-bath temperature in applying DDT to woolens for mothproofing is important in determining how long the treatment will be effective, USDA's Stored-Product Insects Laboratory at Savannah, Ga., reports. Fabrics were treated at 100, 140, 180, and 212 F; resistance

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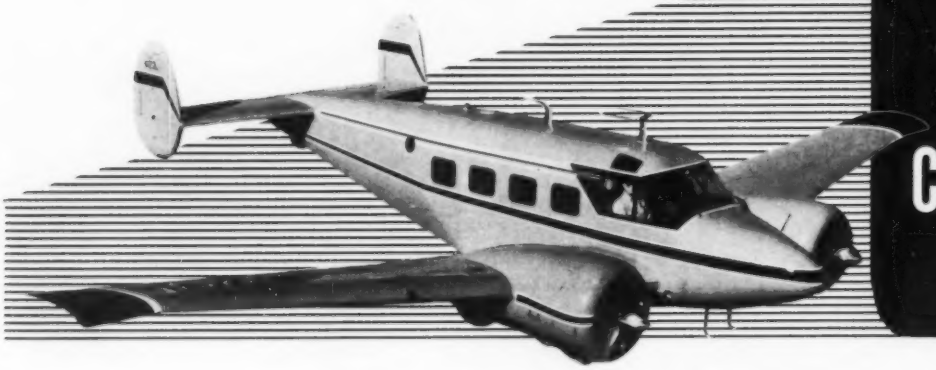

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of the DDT to removal by dry cleaning was greatest in the fabric treated at the highest temperature.

New Futures Contract. Futures contracts for delivery of cotton in October, 1961, and thereafter, will follow new regulations adopted recently by the New York Cotton Exchange. The principal features: 1. Full grade premiums for the split grades—LM+, SLM+, and M+. 2. Full staple premiums for 1 1/16" cotton, and on the delivery of 1 3/32" cotton and longer the full staple premium for 1/16" plus 75% of the difference between 1 3/32" and 1 1/16".

N. C. State Revises Curriculum. North Carolina State College's School of Textiles has announced a major revision of its textile management curriculum. The School is instituting courses in basic economics, in areas of production, marketing, and finance. The revised curriculum "has been planned for outstanding students who have management as their professional goal," and is designed to provide textile graduates with a

A textile print blanket 104 yards long and 76 inches wide, more than double the normal size and believed to be the largest ever made, is inspected at the plant of Dewey & Almy Chemical Division before shipment to Printed Fabrics Corp., Carrollton, Ga. It is now in use on a 16-color automatic screen printing machine, said to be the largest ever built.

Labor-Management News

TWUA to Seek Woolen Pay Boost. Representatives of Textile Workers Union of America, meeting in Boston recently, reached a decision to seek a pay boost for 23,000 members in the woolen and worsted industry, mostly in New England. Size of the increase to be asked was not decided. Union president William Pollock said that an increase in the cost of living, coupled with "the fact that the average wage in woolen and worsted is 57 cents an hour below the average for all American manufacturing" makes the union feel its members need a raise. TWUA's contracts with about 100 woolen and worsted mills come up for reopening or renewal between April 1 and May 15; the union must give the mills 60 days notice of its intention to seek contract changes.

Hanes Hikes Wages. Hanes Hosiery Mills Co., Winston-Salem, N. C., gave its 4,100 employees a 5-cent-an-hour wage increase recently—the seventh general increase since 1950, and following one just over a year earlier. Hanes reportedly pays "considerably above" industry averages. * * * A couple of weeks earlier, Hanes Dye & Finishing Co., also of Winston-Salem, gave its employees a wage hike of an undisclosed amount. J. R. Durham, Sr., Hanes' president, reported that the increase would cost the firm $50,000 to $55,000 annually.

TWUA Plans Southern Drive. As part of its drive for increased wages in the Textile South this year, Textile Workers Union of America has had 320,000 copies of

two pamphlets printed for distribution to mill employees. The first is entitled "Is the South Being Sold too Cheaply?" and the second "Let's Make the 60's Sunny."

Stop, NLRB Tells Stevens. National Labor Relations Board has issued a cease and desist order requiring J. P. Stevens & Co., Inc., to stop discouraging employees at its Roanoke Rapids, N. C., plants from membership in Textile Workers Union of America. The firm allegedly questioned workers about their union activities and affiliations, and threatened them with reprisals. Stevens is also required to reinstate two employees, with back pay.

Chatham Boosts Pay. Chatham Manufacturing Co., Elkin, N. C., has given its 2,300 employees a 5% pay increase. The boost will raise the company's payroll by over half a million dollars a year.

The 1959 Bargaining Picture. Management - union negotiations last year produced wage increases averaging 8.1 cents an hour for the various manufacturing industries, according to the Bureau of National Affairs, Inc. Of 3,100 wage settlements studied, 207 were in the textile-mill products industry, for which the average wage settlement was the same as for all manufacturing industries — 8.1 cents an hour.

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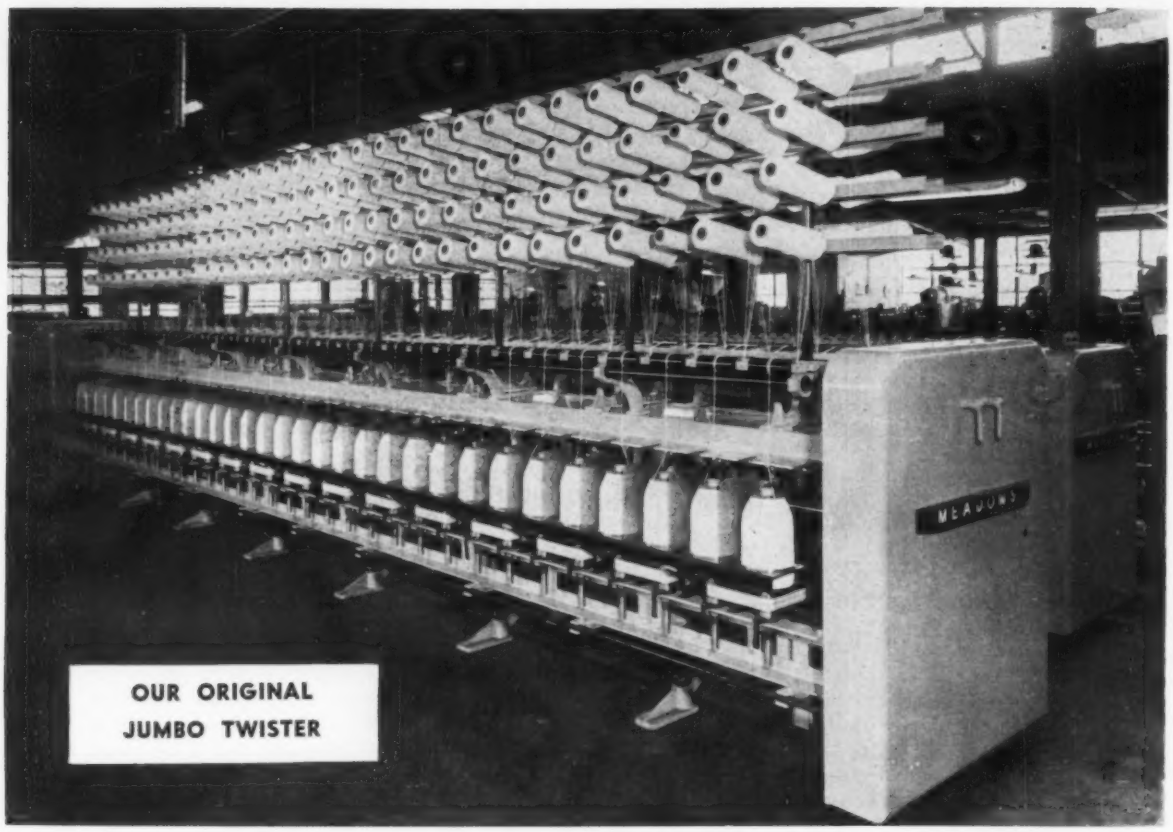
MEADOWS anti-friction RING TWISTER
IS STILL FIVE YEARS AHEAD OF THE FIELD



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JUMBO TWISTER

Five years ago we engineered and pioneered the original completely anti-friction Ring Twister. Having rebuilt other peoples' twisters for 25 years, we knew the weak spots and how to correct them . . . and we did.

Some of our anti-friction features are now being copied. But we have a five year lead in design, construction, adaptability and flexibility . . . and we plan to keep it that way.

Other twisters can be run at high speeds, but have not attained the speeds together with the operating efficiencies, nor the quality of production which Meadows supplies.

Meadows Twisters adapt readily to such unusual fibers as glass and paper, as well as combed or carded cotton; wool; rayon, nylon or other filament yarns and spun blends.

Many mills have shown appreciation of our leadership by adopting Meadows equipment, and by bringing special problems to us for solution. Our pioneering has proven itself, and the features of our machines that are now being copied are proof of that!

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Manufacturing Co.
Established 1931
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broad understanding of business management in addition to a basic knowledge of textile materials and processes.

Textile Failures Down. There were 69 failures last year in the textile-mill products industry, according to a report by Dun & Bradstreet, Inc. This compares with 92 failures in 1958. Liabilities of the failed firms were also down —from $9,019,000 in 1958 to $7,338,000 in 1959.

Wool Cloth Imports at New High. Wool cloth imports soared to an all-time record high in 1959, with a striking spurt in October adding "compelling evidence" that U.S. tariffs are below the "peril point," the National Association of Wool Manufacturers reports. NAWM said that figures for 11 months of 1959 indicated the total for the year would be about 46 million square yards—34% over 1958 and 32% over the postwar high in 1956. October imports were up 194% over the previous year and 270% above October, 1957.

Make Textile Committee Permanent — TWUA. Textile Workers Union of America, AFL-CIO, through its general counsel, William Pollock, has called on President Eisenhower to make the Interagency Committee on Textiles a permanent group. In his letter to the President, Mr. Pollock said, "Most textile problems are basic and long-range in character; they can not be overcome through piece-meal remedies or through sporadic attempts at a cure."

First New Knitter to Beautiful Bryans. The first production model of Scott & Williams' new 504-needle, single-feed seamless hosiery knitting machine has been delivered to Beautiful Bryans, Inc., Chattanooga, Tenn. It is being used to knit 7-denier hose, called "Petit Point."

Trading Months for Futures Increased. The New York Cotton Exchange now permits trading in contracts for the future delivery of cotton up to 24 months ahead, instead of the former 18-month maximum. The extension is made to offer futures contracts to the industry during the transition period from government buying and selling of the cotton crop to private handling. Beginning with the 1961 crop, the government discontinues the outright purchase and sales program, although the loan program remains in effect.

New floor covering with 3/16" foam rubber back is called "Candycote." It can be used first as carpeting, later as padding under conventional carpeting. It is made by Crown Rubber Co.

"Recovery bags" of neoprene-coated nylon are used by the Air Force as shock absorbers in recovering the TM-76 Mace tactical missle during training and test flights. Two of the bags are popped out by ground control when missle nears earth; they cushion landing shock.

More Mills Lease Equipment. Textile mills acquired $4.1 million worth of equipment on long-term leases last year, according to Robert Sheridan, president of Nationwide Leasing Co. This repre-

NEW AUTOMATIC SPOOLER

TYPE "F"

DESIGNED FOR MODERN SPOOLING FROM LARGE BOBBINS TO LARGE CHEESES

The best features of preceding machines have here been combined with many modern improvements to produce this latest and greatest of Barber-Colman Automatic Spoolers. Increased capacity permits spooling of cheeses up to 6½ lbs. from bobbins up to 12¼" long. Bobbin pockets with movable skewers are lengthened and improved. Permanently-balanced bakelite drums have new crossover double grooves. Quick-set snick plates, one of the finest yarn cleaners ever developed, are easily accessible. Double cheese-supporting arms have built-in brakes. A radical new feature is an automatic sorter that separates empties from tailings bobbins, eliminating any further handling of bobbins after placing them in the pockets. Another valuable innovation is a tape-breaker mechanism, a simple device that greatly improves the build of the cheese. By using the 6½ lb. cheese, production improvements can be achieved in warping, doubling, twisting, backwinding, sale cones, knitting, unifil, shuttleless looms, or quillers. *For full information on how this new Spooler can benefit you, see your Barber-Colman representative.*

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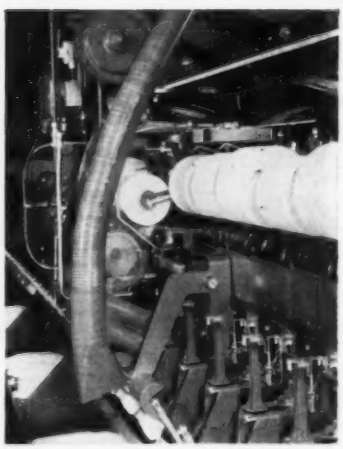
NEW JERSEY
MAY 23-27, 1960



Above, a close-up view of traveler moving along the cheese row, picking up the ends from the bobbins and tying them to the cheeses.

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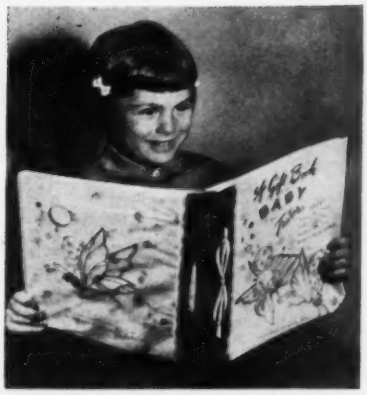
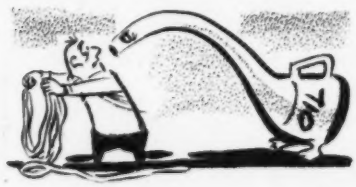


This "Baby Book Set" by Triboro Quilt Manufacturing Corp. won first prize in the soft goods and wearing apparel division of the 4th National Flexible Packaging Competition, and also President's Award for best in show.

sented a 52% increase over the 1958 figure.

Warn Against Oil on Covered Yarns. Covered Threads Association has issued a reminder to users of rubber yarns that most lubricants have a deteriorating effect on rubber. The Association recommends that knitters and weavers investigate the lubricant used on



man-made fibers which they purchase, to determine its effect on rubber threads with which it may come in contact. Immediate scouring of grey goods is advised until it is determined that the lubricant is not having an injurious effect.

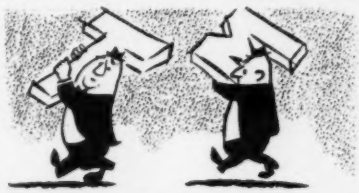
Military Textile Spending to Rise. The budget for fiscal 1961, which begins next July 1, shows that spending by the armed forces

for textiles and clothing will total $213 million—up about a third over fiscal 1960.

Crease and Pleat Evaluation. AATCC research committee on wash-and-wear fabric evaluation reports that use of photographs provides best methods for rating crease and pleat retention.

Quilted Apparel Batts. Fiber Products Laboratories, Inc., Newark, N. J., reports development of a process for making bonded synthetic fiber batts that do not require a woven fabric backing in quilted apparel products. High-speed cylinder carrying a thin fiber film acts to interlace and felt the fibers into an integrated web of uniform consistency. Web is passed through a bonding and coating process which secures the fibers without matting them.

Associations Switch Bureaus. Direction of the Design Registration and Trademark Bureaus has



been transferred from American Cotton Manufacturers Institute to the Textile Distributors Institute.

Tips for Tariff Witnesses

■ I appeared at the tariff hearings as a Peril Point witness for the National Association of Wool Manufacturers in support of its well founded position that wool cloth duties are already below the Peril Point. This was my first experience at such hearings and I welcomed the opportunity to attend and to testify.

With our own woolen plant at Barnwell, S. C., one of the newest and most modern in the country, directly affected by the loss of markets due to foreign imports, I submitted specific imported fabric samples to clearly demonstrate that present duties are below the Peril Point. I pointed out to the Commission that these fabrics were selling at prices here, after applying the highest duty, that were far lower than any actual production costs at Barnwell and so indicated by supplying a specific Barnwell cost for each of the fabrics submitted and comparing it to the actual selling price of the cloth. I also further stated that it was our opinion that such superior efficiency that we now have or may possess in the future, was not sufficient to overcome the advantage of vastly lower wages and other costs enjoyed by foreign mills selling competitive goods in the American market. . .

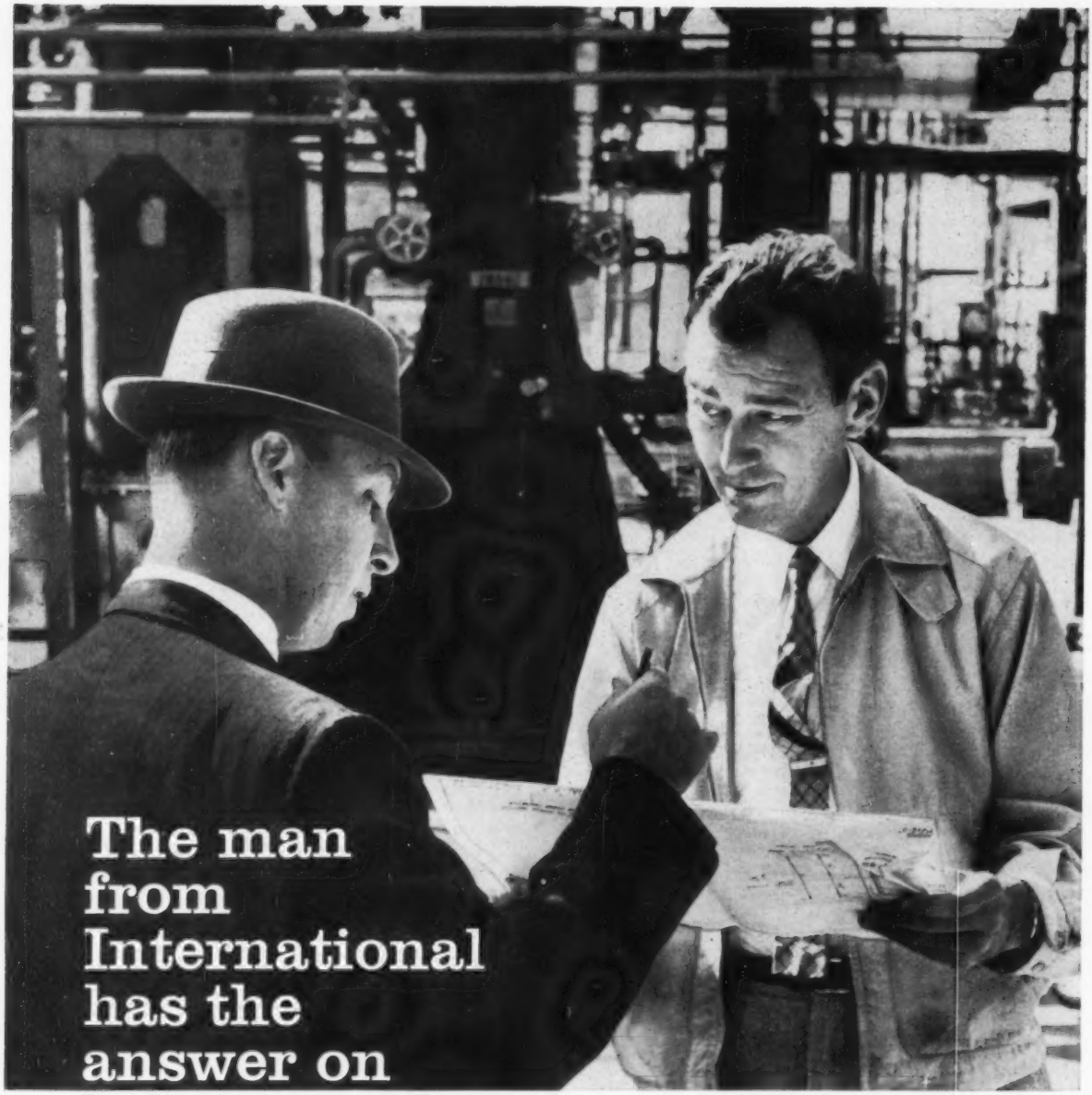
Attorneys for foreign import interests questioned industry men specifically about wage rates, the average labor content of product, and maximum loom work loads in individual plants. The general intent of this line of questioning was to downgrade the testimony by making generalizations and lumping statistics into averages. Witnesses had to combat this type of inquiry by insisting on specific rather than general questions because competition with imports is not on an average but on a particular product or classification of products.

As a "First Timer" my experience may be of help to members of other industries whose products will be on the big bargaining list due to be issued about March 1, and I would like to make the following observations:

1. Statements of trade associations provide an umbrella, giving the broad picture with statistics and pertinent details. They must be strongly supported, however, by statements from industry people who can specifically tell how imports have injured them or threaten injury.

2. No matter how repetitious it may seem, top men of companies should hammer home the story so that the Government will learn first hand just how imports are affecting American producers and their employees.

3. All companies in an industry should be represented at the hearings to show the industry's concern. At our wool cloth hearings well over half of the industry's production was represented, outnumbering foreign and import interests.—*Ronald R. Boyd*, executive vice-president, Amerotron Co.



The man from International has the answer on brine production

Final details for a new brine-production system are checked by an International Salt Company sales engineer and his customer. Specially designed to fit a medium-sized plant where interior space is unavailable, the system calls for a storage Lixator*, a large-scale rock-salt dissolver operating on the self-filtration principle discovered by International. Lixators can be adapted to meet any space and production requirements. The man from International is a technical specialist in the efficient production, use and storage of brine. His experience, knowledge and on-the-spot service are the vital extras that make International the first choice of so many salt-using companies. To put these extras at your disposal, contact International Salt Company, headquarters: Clarks Summit, Penna., or the district office nearest you: Boston, Buffalo, Charlotte, Chicago, Cincinnati, Detroit, Newark, New Orleans, New York City, Philadelphia, Pittsburgh, St. Louis.

*Reg. T.M. of the International Salt Company.

INTERNATIONAL STERLING SALT SALT COMPANY

"A STEP AHEAD IN SALT TECHNOLOGY"

SQC Short Course at N. C. State. A short course in statistical quality control will be held at the School of Textiles, N. C. State College, May 2-13. The 10-day course will include the statistical approach to quality control, as well as practical applications of these techniques to routine quality control problems of the textile industry.

PTI Promotes Textile Opportunities. High school guidance personnel from the Middle Atlantic States were given the story of the opportunities that exist in the textile and allied industries at a recent conference sponsored by Philadelphia Textile Institute.

Safety in Starch Handling. Managers of mills in which bulk starch is being used for warp sizing or finishing are reminded that starch dust is combustible (just as the dust from cotton, coal, etc.) and that "dust explosions are possible wherever materials that give off combustible dusts are stored, handled, or produced." Those who have not already informed their insurance underwriters that bulk starch is being used are urged to do this promptly and arrange for their starch handling facilities to be inspected for adequacy of explosion safeguards. Also, managers of mills in which use of bulk starch is being considered are advised to consult with their insurance underwriters beforehand to avoid the possibility of later having to make changes in buildings and equipment in order to comply with insurance requirements.

Merchandising Notes

Fragrance Process Co., Inc., is producing polyethylene packaging scented to go with the product wrapped in it. Such aromas as "clean linen" for fresh laundry

packages, perfume for packaging women's lingerie, and tweed for men's sport shirts are among those now available.

Beaunit Mills is introducing Vycron-Acrilan and Vycron-cotton knit goods in jersey, waffle knit, and in lace and mesh effects.

Chemstrand Corp. sponsored a field trip to northern Canada during January to test the insulating and wear properties of products made from Acrilan and from nylon. The project also included evaluation of comparative values of various textile constructions in cold-weather clothing. * * * Chemstrand will sponsor Acrilan Carpet Week starting March 12. * * * The company is instituting a licensing program for its A-Acrilan trademark. The trademark now also assumes the status of an "ingredient mark" under the terms of the licensing program.

Chicopee Mills, Inc., has launched an educational program aimed at increasing over-the-counter sales of Keyback nylon-rayon nonwoven interfacing and underlining fabrics. The program includes advertising, store promotions, and mailings of classroom materials to home economics instructors.

The Denim Council will sponsor National Denim Week this year from August 22 to 27.

U. S. Rubber Co.'s Eureka Fire Hose division is now offering multiple-woven and double-jacketed hose in all-Dacron constructions. This completes the division's changeover from natural to synthetic fibers.

Harry Lapow, package designer, calls the textile industry "notoriously slow in adopting progressive packaging ideas," in an article ap-

pearing in a recent issue of *Linens and Domestics.* He cites a recent industry survey, which showed that soft-goods producers appropriated only 5% to 10% of merchandising costs to packaging. In contrast, candy firms spent 21%, food 24%, stationery 37½%, and cosmetics 47½% on packaging.

Plymouth Cordage Co. is now marketing a multifilament rope made of Prolene polypropylene fiber. It is said to feature light weight, high strength, durability, and chemical resistance.

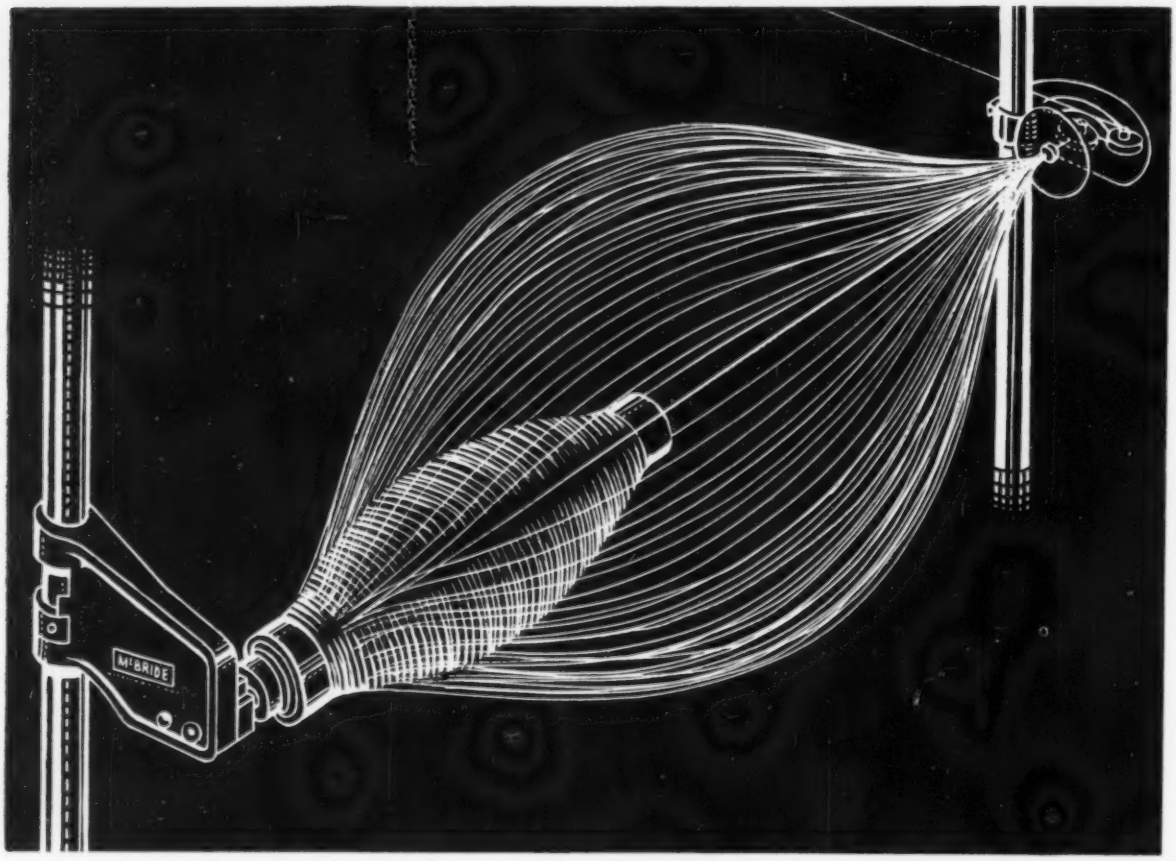
Rich's, Inc., Atlanta department store, has launched for the second year its "hosiery of the month" club. A customer can order three pairs to be sent each month for three, six, or twelve months, at a cost of $1.35 to $2.50 a pair.

Scott Paper Co. is using a half-million dollar advertising and promotion campaign to introduce its Scottfoam polyurethane foam—the company's first venture outside the paper field. The foam is used as an interlining, after bonding to a fabric.

Sunbury Textile Mills are weaving fabrics of Rovana saran microtape for use by Atlantic Products in a new line of luggage.

Market Research Corp. of America is conducting a study in which a nationwide consumer panel of 6,000 families will start recording its purchases of 125 items of apparel, household furnishings, and piece goods on March 1. Chemstrand Corp. and Eastman Chemical Products, Inc., are among those who have subscribed to the study.

BE ON TARGET WITH McBRIDE...



HEAVY DUTY CREEL ARMS

Are your creel arms overloaded? Have you a problem reaching the target (entrance eye) on your tensions? If so you are losing warping efficiency. McBride's heavy duty package arm is designed specifically to correct this situation!

No Sag—even the largest packages stay straight on target for accurate over end draw off.

Fast Change—arm swings back out of way for package change, no interference with ballooning yarn.

McBride swing arm assemblies are made to fit all packages.

Instant changeover with McBride Quik change cone and large diameter package holders.

Complete new creels or fittings to modernize your existing creels.

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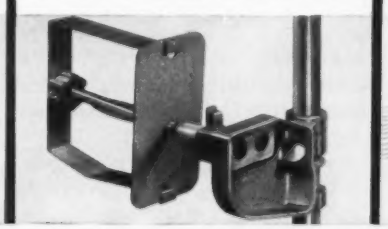
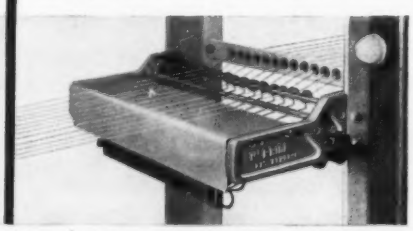
LARGE DIAMETER PACKAGE HOLDER



MERCURY SWITCH STOP MOTION



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CREELS *FOR EVERY PURPOSE* CONE HOLDERS, STOP MOTIONS, TENSION CONTROLS, WARP BEAMS, FLANGES, CARPET INSPECTION TABLES, METAL AND WOOD ROLLS.

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RECENT TECHNICAL AND COMMERCIAL DEVELOPMENTS

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

FIBERS AND YARNS

Textured Yarns. English Lancashire Cotton Corp. introduces "Elsalon," a new textured yarn. Bulked yarn said to be produced by a single-stage false-twist technique, with no afterprocessing required. Singles constructions can be used without difficulty. Both natural and yarn-dyed versions are available in standard deniers. * * * Kawashima Spinning Co., Ltd., of Japan has applied for patents on a new bulking process for filament nylon yarns. Experimental plant now operating on limited poundage of nylon daily in producing such yarns, identified as "Rivercroft" and reported to be unlike those made by "Textralized" method for Ban-Lon garments. * * * The texturizing of the French continuous filament "Rhovyl Mousse" polyvinyl chloride yarns is reported to be under investigation abroad. The Helanca processing technique is said to have been successful for these yarns on the continent. * * * Katakura Industries of Japan have developed a bulking process for filament silk, applied during the reeling of the fiber from the cocoons.

Verel Modacrylic Carpet Staple. Tennessee Eastman is now offering 16-denier Verel HB carpet staple at 88¢ per lb. High bulk is developed in steaming during piece dyeing or latex curing of the carpeting at 240 F or over. Greater bulk is obtained in yarns spun on the American or cotton system than those produced on the worsted system. Carpet constructions must be looser to allow for blooming, since yarns contract 10-15% after bulking. Reduced luster necessitates use of 85-90% of bright fiber instead of the 70% previously recommended.

Polychlorotrifluoroethylene Filaments. Union Carbide Co. has received a British patent on new synthetic filaments reported to be suitable for textile usage. Claim excellent resistance to chemicals, heat, and abrasion, and a high degree of toughness.

New Cross-Section Fiber and Yarn. The American Viscose Corp. is reported to have developed a new "cellular" staple which has a triangular cross-section, achieved through special spinning techniques. The new rayon, identified as "Avlin," is said to impart linen-like textures to fabrics. * * * A recently issued British patent discloses a method for producing melt-spun yarns of the nylon type with two or more lobes in cross-section by arranging for coalescing the fluid filaments following extrusion.

Dow to Make Nylon. Dow Chemical Co. has announced that it will build a plant to manufacture nylon 6 filament yarn at Williamsburg, Va., site of the company's Zefran facilities. Initial capacity will be 12 million pounds annually, and production is expected to begin in late 1961. It is anticipated that bulk of output will go into tire cord.

Avisco Names Fiber. American Viscose Corp. has announced the trademark "Avril" for its cross-linked cellulosic fiber, known in its experimental stages as "Fiber 40." Commercial production is expected by mid-summer.

Nonround Nylon. Du Pont has adopted the trademark "Antron" for a new type of nylon fiber with a nonround ("tri-lobal") cross section. This is the first nylon the company has distinguished with a trademark since the introduction of the fiber in 1939.

MACHINERY AND PROCESSES

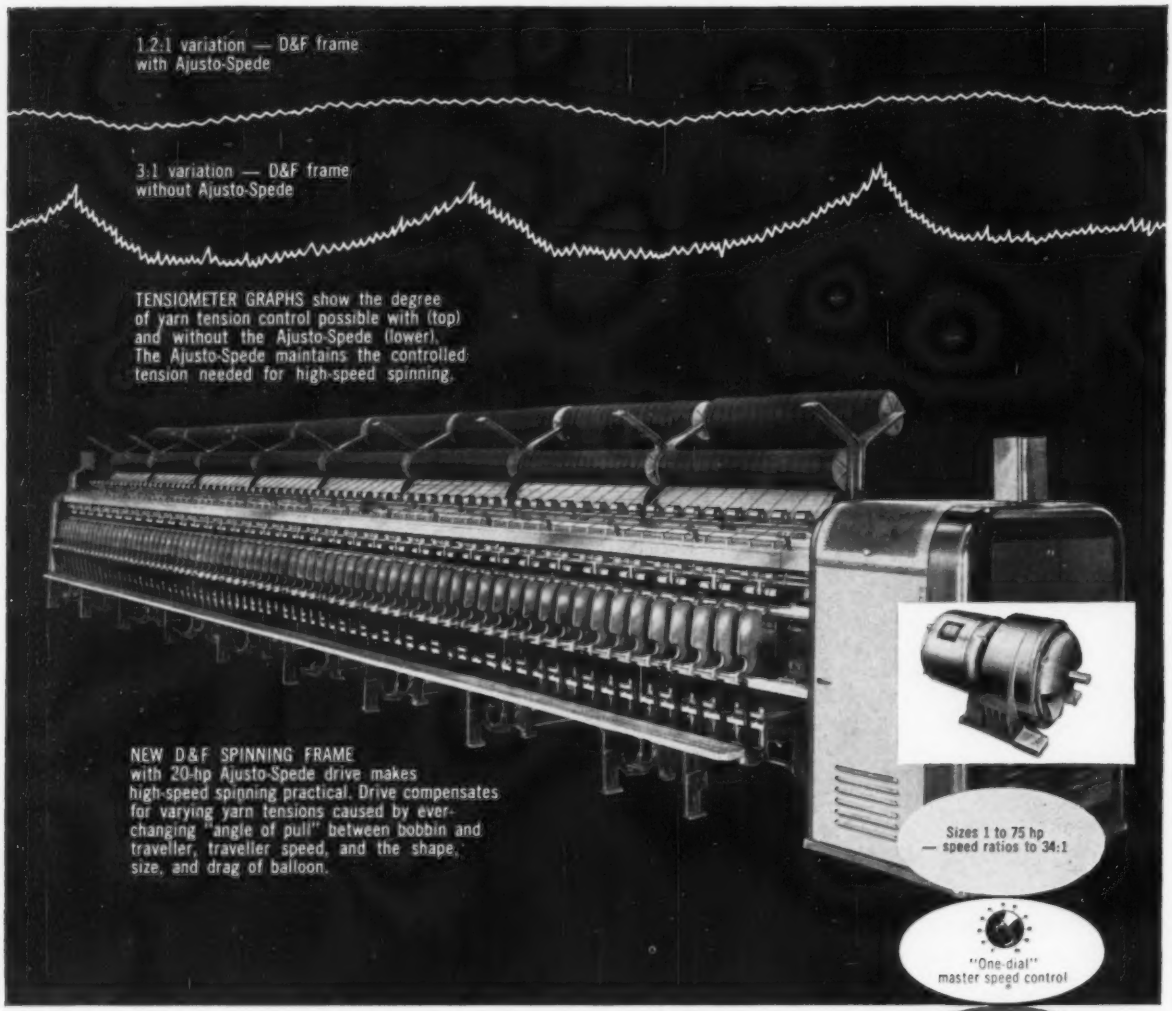
Special Spinning Frame. Special frame, built for the USDA Spinning Laboratory at Knoxville, Tenn., has a range of drafts from 8 to 650 and twists from 6 to 85 turns per inch. Frame has a five-roll drafting system with two apron sections and spins yarns either direct from sliver or from roving. Yarns produced for test purposes said to be comparable to those made with conventional production equipment.

FABRICS AND FINISHES

Dyeing Method. A British patent has been assigned to a Swedish concern for a new apparatus which involves the passage of fabric over rollers into a dyebath, pressing it between a pair of cylinders from which it passes between infrared heating lamps. Slow rotation of cylinder onto which fabric is rolled allows desired physical and/or chemical reaction to take place between the dye and the fabric.

Reduced Pilling. Finishing process for fabrics containing polyester fibers, patented by the Du Pont Co., covers use of an impregnating agent of polyether glycol, esters, ethers, or mixtures, heating to a temperature of from about 18 C to the fusion temperature of the surface fibers. Body fabric temperature is maintained below that of the surface to avoid degradation.

Reclaiming Nylon from Rubber Covered Yarn. Unvulcanized rubber scrap materials are recovered into a reusable form, according to a U. S. patent recently assigned to two New York inventors. The nondestructive process utilizes a selected solvent for the rubber,


1.2:1 variation — D&F frame with Ajusto-Spede
3:1 variation — D&F frame without Ajusto-Spede
TENSIOMETER GRAPHS show the degree of yarn tension control possible with (top) and without the Ajusto-Spede (lower). The Ajusto-Spede maintains the controlled tension needed for high-speed spinning.
NEW D&F SPINNING FRAME with 20-hp Ajusto-Spede drive makes high-speed spinning practical. Drive compensates for varying yarn tensions caused by ever-changing "angle of pull" between bobbin and traveller, traveller speed, and the shape, size, and drag of balloon.
Sizes 1 to 75 hp — speed ratios to 34:1
"One-dial" master speed control

Keeps yarn tension constant... ups output at least 20%!

Louis Allis Ajusto-Spede® drive on Davis & Furber spinning frame minimizes "ends down"...cuts costs...improves quality of yarn!

The smooth, precise control of yarn tension by the electronically-controlled Louis Allis Ajusto-Spede drive permits high-speed spinning of wool yarn. The big gain in production achieved by the new Davis & Furber spinning frame proves it!

In-the-mill production records show that uniform yarn tension brings the following benefits:

1. More yards and pounds of yarn per spindle hour.
2. More uniform yarn density and build of bobbin.
3. Fewer "ends down" and less downtime.
4. Lower per-pound production cost.
5. Production increases of 20% and more!

The Ajusto-Spede can be used as a standard adjustable-speed drive — or it can be used to cycle the speed of the frame to keep yarn tension constant. It enables you to select optimum speeds for spinning any grade of wool. Fewer "ends down" allows more free time for the operator to tend additional frames. The operator can easily adjust the controls to provide the optimum speed for the particular grade of wool, and the Ajusto-Spede *responds smoothly and automatically!*

Our drive specialists can help you increase production — to improve the quality of your spinning, as well as all other textile operations. Call your nearby Louis Allis District Office for application help — or write The Louis Allis Co., 468 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

AS-106

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE-SPEED DRIVES

mechanical action, and the floating of the recovered fiber free from the residual rubber, washing, and drying.

An Improved Antistatic Finish. Onyx Oil & Chemical Co. has developed a practical means for simple application of their Aston 123 durable antistatic for synthetics and blends. The finish is now cross-linked during application with an epoxide, Eponite 100, allowing elimination of the curing stage and after-wash on medium to darker shades. Lower temperatures may be used and application under ordinary pH conditions affords compatibility with other resin finishes. Du Pont has filed patent application for combination of the two chemicals, but will reserve exclusive rights to use on yarns, staple, and tow only, with trade permitted to use these materials on fabrics without royalty.

TEST METHODS

Ballistics Test for Fiber Evaluation. Fabric Research Laboratories, Inc., reports use of a ballistic test to determine fiber behavior in modern high-speed textile machinery. Loading rates of up to 2,000 ft per sec may be used with photographs taken as bullet passes through the fiber sample. Claim stress-strain characteristics are useful to predict performance of untried fibers.

Measuring Fiber Hardness. Japanese National Textile Research Institute has developed a new device for the determination of fiber hardness. Claim instrument is capable of gauging fiber susceptibility to heat where hardness is affected by temperature changes. Wool rates as the softest fiber and high-tenacity rayon the hardest, with nylon, polyester, and acrylic in between, ranging from soft to hard.

Testing Yarn Slippage in Woven Fabrics. Dutch AKU research department has designed a new technique for determining yarn slippage characteristics in woven fabrics. Force required to shift threads is measured on a fabric dynamometer.

FUTURE EVENTS

Date	Event	Location
Mar. 1-4	ASTM Committee D-13	Sheraton-Atlantic Hotel New York City
10-11	Fiber Society	Roosevelt Hotel New Orleans, La.
12	Piedmont Div. Southern Textile Association	Johnston Memorial YMCA Charlotte, N. C.
14	Western New England Section AATCC	Rapp's Restaurant Shelton, Conn.
17-18	Southern Textile Methods and Standards Association	Clemson House Clemson, S. C.
18	Metropolitan Section AATCC	Kohler's Swiss Chalet Rochelle Park, N. J.
24-25	Textile Research Institute annual meeting	Hotel Commodore New York City
24-25	Textile Quality Control Association	Dinkler Plaza Atlanta, Ga.
25	Rhode Island Section AATCC	Providence Eng. Soc. Providence, R. I.
27	Hudson-Mohawk Section AATCC	Chelsea House Tribes Hill, N. Y.
Mar. 31-Apr. 1	ASME Textile Engineering Conference	N. C. State College Raleigh, N. C.
1-2	Delta Kappa Phi textile fraternity annual convention	Roger Smith Hotel Washington, D. C.
2-3	Piedmont Section AATCC	R. E. Lee Hotel Winston-Salem, N. C.
April 7-9	American Cotton Manufacturers Institute annual meeting	Americana Hotel Bal Harbour, Fla.
16	Southeastern Section AATCC	Callaway Gardens Pine Mountain, Ga.
20-22	Alabama Textile Manufacturers Association annual convention	The Buena Vista Biloxi, Miss.
21-23	National Association of Hosiery Manufacturers annual convention and Hosiery Industry Conference	Americana Hotel Bal Harbour, Fla.
22	Textile Institute annual meeting	Midland Hotel Manchester, England
23	Textile Operating Executives of Georgia carding-spinning discussion	Ga. Tech Atlanta, Ga.
26-27	Institute of Textile Technology Technical Advisory Committee and Board of Directors.	I.T.T. Charlottesville, Va.
28-30	Phi Psi national convention	Hotel Roosevelt New York City
29	Underwear Institute annual meeting	Hotel Biltmore New York City
30	Eastern Carolina Div. Southern Textile Association	N. C. State College Raleigh, N. C.
May 11-14	Carolina Yarn Association	The Carolina Pinehurst, N. C.
19-21	Georgia Textile Manufacturers Association annual meeting	The Diplomat Hollywood, Fla.
23-27	American Textile Machinery Exhibition	The Auditorium Atlantic City, N. J.
25-27	Narrow Fabrics Institute, Inc	Northfield, N. J.
25-28	Tufted Textile Manufacturers Association annual convention	The Fountainebleau Miami Beach, Fla.
26-28	South Carolina Textile Manufacturers Association annual convention	The Cloister Sea Island, Ga.
May 31-June 2	Cotton Research Clinic	Grove Park Inn Asheville, N. C.
June 23-25	Southern Textile Association annual meeting	Grove Park Inn Asheville, N. C.
Sept. 8-9	Combed Yarn Spinners Association	The Cloister Sea Island, Ga.
27-28	Chemical Finishing Conference sponsored by National Cotton Council	Statler Hotel Washington, D. C.
Oct. 3-7	Southern Textile Exposition	Textile Hall Greenville, S. C.
5-8	Carded Yarn Association annual meeting	Grove Park Inn Asheville, N. C.
6-8	AATCC national convention	Sheraton Hotel Philadelphia, Pa.

*Everglaze is a trademark signifying fabric processed and tested according to processes and standards controlled and prescribed by Joseph Bancroft & Sons Co.

What keeps *Miss America's* gown so fresh and lovely?

It simply wouldn't do for Miss America—Lynda Lee Mead, Natchez, Mississippi—to look less than her loveliest, ever. That's why millions of Americans will see her on tour this year as you see her here . . . in a care-free, crisp and crush-resistant *Everglaze gown treated with Rohm & Haas RHONITE resin. And Miss America's gown will keep its attractiveness through laundering after laundering, because RHONITE resins penetrate and react inside the textile fibers.

Rohm & Haas will be glad to furnish you with technical information on using the wide selection of RHONITE resins for wash-wear finishes, calendered effects, textures and lasting dimensional stability in cottons, rayons and blends. Why not write, today?

RHONITE is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

RHONITE

EXECUTIVE VIEWS

Prepared by a man who is closely identified with the textile industry.

Must warp sizing be edible?

THE PACKAGING Act Amendment to the National Food Additives Act has caused us considerable embarrassment and bewilderment in our business. Perhaps other mill men will be interested in the kind of absurdities that are caused by adhering strictly to the letter and law of this Act.

The Act sets forth that all chemicals, coatings, and packaging materials that come into contact with foodstuffs are in the future to be considered as food additives. Therefore these materials must be capable of passing the specifications and tests that are applied to food additives. In other words, the Act is being interpreted to mean that any object which contacts a foodstuff must be as pure and edible as the food itself.

This interpretation of course has played havoc with packagers of foodstuffs and processors of food materials, who have been accustomed to thinking that the foods themselves are very little affected by the containers in which they are packed, or by the processing vessels, bins, vats, conveyors, etc., through which they pass in their various stages.

FROM A TEXTILE standpoint the absurdity in this Act stems from the fact that the cloth sacks which are commonly used for packaging sugar and flour are included in the materials which must be completely innocent of indigestible additives. That is, all processing chemicals used, starting from the growing cotton fiber itself, through the carding, spinning, slashing, weaving, and finishing processes, must all pass the requirements of the Food Additives Act as it is being interpreted. If this is strictly enforced, even the insecticides and fertilizers used in growing the cotton must be edible.

Getting back to the mill, it is obvious that any oils, lubricants, etc., would also have to be edible. Coming to the final sack itself, it is well known that fabrics used for packaging substances of fine particle size, such as sugar and flour, must be sized with a starch material to close up the pores of the cloth to prevent sifting or dusting. It has been customary in the past to use various softeners, waxes, and other ingredients to impart flexibility and non-flaking characteristics to the size or finish applied. Many of these finishes contain not only plasticizing agents, but also fungicides to prevent the starch film from supporting the growth of mildew or bacteria while the fabric or sack is in storage.

Under the terms of the Packaging Act, all such chemicals used in the sizing or finishing of bag materials must pass the food additives specifications. It can easily be seen what absurdities result from such a situation.

THE SIZING of food material bags has been a practice for possibly a century. The amount of material which finds its way from the sizing or finishing materials on the bag into the food has never been known to cause any contamination of foodstuffs. As a matter of fact, it would be an analytical feat of no small proportions to determine just exactly how much, if any, of say a fungicide finds its way from the finish on the bag to the sugar or flour which it contains.

Even more ridiculous is the fact that in the processing of the bagging materials, the chemicals used in soaping, desizing, printing, or other wet processing must also meet the requirements of the Food Additives Act. As a matter of fact, we have heard that even detergents and soaps used in these operations are now being viewed with suspicion.

I have pointed out briefly some of the absurdities which are resulting from the Packaging Act Amendment to the National Food Additives Act, and some of the difficulties which are being forced on the textile mills and also on the suppliers of chemicals to the textile mills. I hope that this will arouse some action among the readers of TEXTILE INDUSTRIES and put pressure on our Congressmen to see that a sane and sensible attitude is taken on this matter in the future.

a guide to Courtaulds' totally new cross-linked rayon fibers

CORVAL and TOPEL®

Corval and Topel are the newest products of Courtaulds' fiber research and development. Basically, they are cellulose, but they differ from traditional rayon both in structure and behavior. The reason is a chemical process of cross-linking that controls the molecules of the fiber structure, tying them together, minimizing the spaces in between.

The result is a new form of fiber with rayon's easy dye-ability and versatility plus definite advantages over rayon: for example, improved dimensional stability and quicker drying, which are excellent qualities for wash-and-wear. The molecular structure of cross-linked Corval and Topel makes for a fine, even yarn, which in turn produces a richer-looking weave in fabric. In addition, Corval and Topel offer the natural fibers' warmth, vitality and feeling of comfort and luxury. This is true of pure 100% Corval and Topel, as well as blends with other fibers.

See the outline below for specifics on Corval and Topel, Courtaulds' new fibers for men's, women's and children's apparel and home furnishings.

JOINT PROPERTIES OF CORVAL AND TOPEL

1. Processes efficiently on conventional cotton-rayon, woolen and worsted equipment.
2. Water absorption and swelling comparable to cotton's.
3. Higher wet initial modulus than viscose rayon.
4. Improved dimensional stability to laundering.
5. Dry strength comparable to medium tenacity viscose rayon staple, but higher wet strength.
6. Resistance to alkalis, enabling caustic treatments to be performed.
7. May be dyed with all the normal dyestuffs used for cellulosic fibers.
8. Can be resin-treated to obtain good wrinkle-resistance and finish for different types of performance.
9. Has esthetic properties and comfort, humanizing the synthetic fibers in blends.

SPECIAL PROPERTIES OF CORVAL

1. On fulling, or to a lesser degree, rope washing, develops a soft-bulky, wool-like hand.
2. Blends especially well with bulkier fibers like wool and orlon.
3. Creates loft and kindness of hand in woven and knitted fabrics for all kinds of apparel.

SPECIAL PROPERTIES OF TOPEL

1. Used 100% or in blends, produces fabrics of enhanced hand and luster.
2. Blends with man-made or natural fibers, notably cotton, flax, nylon, Dacron, Kodel.
3. Results in economical fabrics of superior appearance and widespread interest to the apparel industry.

AVAILABILITY OF CORVAL

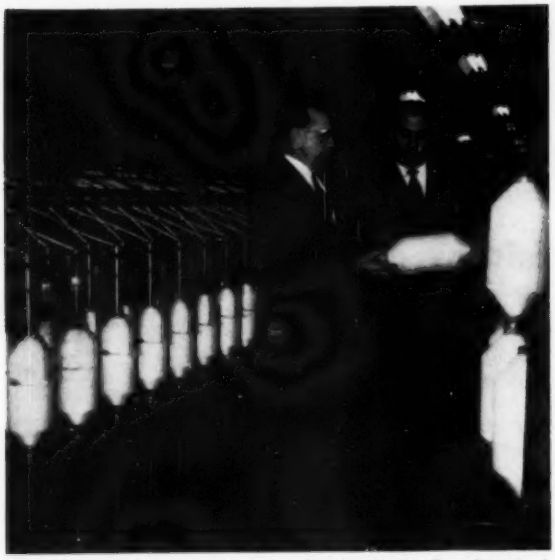
Bright and dull, regular and crimped,
in all deniers up to and including 15

AVAILABILITY OF TOPEL

1.5 denier, bright and dull
3 denier, bright and dull
regular 1¼ and 1⁹⁄₁₆ staple
regular 1⁹⁄₁₆ and 2" staple

Expert guidance in every phase of processing Corval and Topel is available upon request. Contact the Fiber Development Department, Courtaulds (Alabama) Inc.; *first in man-made fibers, first in cross-linking, first in solution-dyeing,* 600 Fifth Avenue, N. Y. 20—Greensboro, N. C.—LeMoyne Plant, Mobile, Ala.

Plastic curtains behind these new drawing frames (15" x 36" cans) reduce fly migration. Finisher drawing operates eight-ends-up.



General Superintendent Miles Baker (left) and Vice-President A. J. Maino look over one of the "new" 12" x 6½" roving packages.

Better yarn for less money

is the result of improvements in machinery and processing methods for rayon staple at Belmont Mills No. 1

Staff prepared Exclusive

OVER-ALL operating costs were cut 10 per cent and quality was improved as a direct result of improvements in machinery and methods at Belmont Mills No. 1, Shelby, N. C. The mill is a division of Neisler Mills, Massachusetts Mohair Southern, Inc.

Before the changes were made, the mill was losing money due to increases in raw material, supplies, and labor costs. Both quality and production were improved by rebuilding opening and picking machinery, by better drawing, spinning, and winding equipment.

Employee morale got an additional boost by improvements in appearance of the building and facilities. Buildings (renovated and painted) and machinery were modernized to bring everything up to date.

New feeders and cleaners are used at opening, and one-process picking is employed. The mill makes spun rayon yarns ranging from 8s to 40s—1½ denier, 1 9/16" viscose staple is used to make yarns for the knitting and weaving trades.

The breaking strength of 12s yarn improved 20 per cent, and this is typical throughout the range of yarn counts while using the same twist multiple and raw materials. There has been a noticeable improvement in appearance of drapery and upholstery fabrics woven in other plants from these yarns.

One half the cards are being replaced by newer ones, and three additional units bring the total to 32. Plans call for a change from 12" cans to the larger 18" x 42" size.

There were 30 deliveries of modified drawing, including both breaker and finisher processes. There are now 20 deliveries of DS-2, three-over-four-roll drawing equipped with 15" x 36" cans and Positube coilers on the finisher

drawing process.

Breaker drawing includes 20 deliveries of modified drawing with 12″ cans and is scheduled for improvement also. Drawing is done with eight ends up on the finisher process, an operation formerly done with six ends up.

Formerly, 8″ x 4″ roving frames were used, but 12″ x 6½″ roving frames equipped with stop motion have effected a worthwhile improvement at this process.

Z-2 spinning frames with antifriction spindles, paper tubes, 2½″ rings, and 1⅜″ front rolls make a 7¼-ounce package with 8½″ traverse. These 276-spindle machines have effected a 25 per cent decrease in ends down per thousand spindle hours. Some of the spinning frames are equipped with umbrella-type creels.

Four traveling spindle winders make 7½″ cones weighing about three pounds, and three stationary spindle winders operate efficiently on small orders. In addition to cone-finished yarn, some yarn is wound on tubes which are taken to the twisters.

Twisters put up to 12 ounces on each package. The 12 larger package twisters currently in production have brought winding costs down 60 per cent, according to mill officials, and a 20 per cent reduction in slip knots has contributed to improved quality.

Built in 1887, the mill buildings had undergone little change. Nothing but floors had been improved until Massachusetts Mohair bought the mill in 1955 and began improvements.

New walls have been erected except on one side, which is scheduled for early completion. New windows have been installed and new floors laid throughout the plant. Also, a 12″ x 8″ compressor replaced older equipment.

The extensive modernization program cost more than $250,000 and has brought worthwhile results to all phases of the operation. A. J. Maino, vice-president; Miles Baker, general superintendent; and superintendent Palmer Hudson are gratified with the new appearance of the mill and the results of the program to date. Lee Miller, New York yarn salesman

Sees continuation of upturn in cotton finishing

■ COTTON finishing plants made favorable gains during 1959, Joseph H. Hoesl, secretary and treasurer of the National Association of Finishers of Textile Fabrics, reported at the organization's recent 46th annual meeting in New York.

The production level averaged an estimated 6 per cent above 1958, but it is still about 5 per cent below the peak reached in 1955, Mr. Hoesl pointed out.

Estimates at the end of 1959 were said to indicate that total cotton goods finished amounted to 7.7 billion yards as compared with 7.2 billion in 1958. Of this total, bleached goods accounted for 3.3 billion yards— up 5 per cent; plain dyed goods increased over 11 per cent to 2.6 billion yards; whereas the output of printed goods of 1.7 billion yards was only about 2 per cent above the 1958 total.

The current upturn in finished goods production was reported to have started in the 4th quarter of 1958, and in each successive quarter of 1959 it showed a gain over the same quarter of the previous year. It was estimated that bleached goods production was only 4 per cent under the peak production reached in 1956 for this class of finishing. Dyed goods production was less than 2 per cent under its peak year of 1955. However, printed goods output is about 18 per cent below the peak it hit in 1955.

"An interesting observation about the current upturn in cotton finished goods output is its similarity to conditions in 1954 when production also started upwards in the 4th quarter of the year," Mr. Hoesl told the group. "In the following eight quarters (two years)," he continued, "the production level gained steadily until the 4th quarter of 1956. It then reversed itself and went downwards for a similar eight-quarter period to the latter part of 1958 when the current upturn began. A simple assumption would be that the current upturn of five quarters will continue for another three quarters in 1960 to complete the cycle.

"What happens to the production level in 1960 depends on several economic and political factors. Among these are: the need for a continuing high level of general business activity; avoiding buildup of surplus inventories through careful control by management of textile output to consumer demand; and, finally, concerted effort on the part of the textile industry to convince the administration of the vital need to put a lid on the mounting tide of imported fabrics and apparel."

Meet these suppliers at the Atlantic City Show (ATME)

■ THESE 285 suppliers to the textile industry had contracted for exhibit space at the American Textile Machinery Exhibition as of February 17, 1960, according to Albert C. Rau, exhibition manager.

By publishing this list two months before show time, TEXTILE INDUSTRIES may be of service to mill management personnel in deciding who to send to the show.

For a complete report of what these firms plan to exhibit, see the preview in TI for May which will reach readers almost a month before the show.

Readers who are unable to attend the exhibition will find a complete report of the show in the July, 1960, issue. For complete information on all commercially available new equipment and materials introduced at the show, read the "New Product Parade" section in each issue of the magazine.

THE EDITORS

James Dickey (left), assistant to the vice-president, and Palmer Hudson, superintendent, with 7½-oz, 8½"-traverse spinning bobbin.

The improvement program has effected a 20-per-cent drop in winder slip knots. This automatic winder is producing three-pound cones.

for the company, is well pleased with better customer relations resulting from the improved yarns.

Belmont Mills No. 1 expects to rank as one of the top rayon spinners in the market in terms of quality and volume upon completion of the program of improvement, according to Mr. Maino.

Abbott
Abington
Abney Mills
Aerosol-Compagnie
Allen-Bradley
Allen Warper
Allentown Bobbin
Allied Chemical
Allis-Chalmers
"Dyestuff Reporter"
American Lava
American Moistening
American MonoRail
American Rieter
"America's Textile Reporter"
Anderson Machine Shop
Arbach
Armstrong Machine
Ashworth
Atkinson, Haserick
W. H. Bagshaw
Bahnson
Barber-Colman
Barco
Baxter Corp.
Edward S. Beard
Edward H. Best
Bijur Lubricating
Birch Brothers
J. Bishop
Bonas Brothers
Benjamin Booth
Briggs-Shaffner
British Northrop, Ltd.
Fritz Buser Engineering
Bunting Brass
H. W. Butterworth
C. I. T. Corp.
Callebaut-De Blicquy
Carniti
Carolina Fiberglass
A. B. Carter
Chandler Machine
Chemstrand
Clark-Cutler-McDermott
Clark Door Co.
Cleveland Worm & Gear
Clinton Corn Processing
Coats & Clark
Cocker
Collins Brothers
Corn Products
Cosa
Cotton-McCauley
"Cotton Trade Journal"
Courtaulds
Crabtree Textile
Crompton & Knowles
Croon & Lucke
Curlator
Curtis & Marble
Custom Scientific
"Daily News Record"
Davidson-Kennedy
Davidson, MacGregor
Davis & Furber
Davison Publishing
Dean Thermo-Panel
Deering Milliken Research
Delerue & Cie.
Diehl
Dixon Corp.
Dow Chemical Fibers
Samuel Dracup
Draper Corp.
Dudley, Garland & Jensen
Duesberg-Bosson
Du Pont
La Duranitre
Durant
Eaton Mfg.
Edda International
Frank W. Egan
Engineered Plastics
Erhardt & Leimer
Extremultus
Fabrionics
Fafnir Bearing
Famatex, G. m. b. H.
Farmingdale
Farval
Fife
Fletcher Works
Forté
Foster Machine
Foxboro
Ernest Frankl
G P E Controls
Gabb Products
Gaston County Dyeing
General Electric
General Plastics
General Radio
David Gessner
Gilbos
George Goulston
Grinnell Corp.
Thomas Halton
Hanseatische Motoren
Hasler
Hayes Industries
Hayssen
Heany Ceramic
Herr Mfg.
Herzog-Auerbach
Hobbs Mfg.
Holdsworth
Houget Ateliers
Howard Brothers
Hudson Automatic
Rodney Hunt
James Hunter, Inc.
James Hunter Machine
Hyatt Bearings
Industrial Dryer
Interstate Textile
Jakob Jaeggli
Johnson Corp.
Johnson Service
Jomac
Jungfrau
Kanegafuchi Machine
Kearny Mfg.
Kennett Equipment
William Kenyon
Kettling & Braun
Kidde
Kluttz Rings
Knotex Maschinenbau
Edward Kusters
W. T. Lane
Lansdowne Steel
Leesona
Lenkotex
Lincoln Engineering
Link-Belt
H. F. Livermore
Lockwood Greene
Edward McBride
McKiernan-Terry
Macbeth
Robert A. Main
Marlin-Rockwell
Marshall & Williams
Mettler Instrument
Fr. Mettler's Sons
Miller Co.
Milton Machine
Minneapolis-Honeywell
Mitsubishi International
Mitsui
"Modern Textiles Magazine"
Morrison Machine
Morrison Textile Mach.
Mount Hope Machinery
Jakob Mueller
Franz Muller
National Drying Mach.
National Ring Traveler
National Starch
National Vulvanized Fibre
New Departure
Nippon Spindle
John P. Nissen
Norcross Corp.
N. C. State College
O-M Spinning Machine
Panamerican Publishing
Paramount Textile Mach.
Parkinson Mfg. Co.
Parks-Cramer
Parrott & Ballentine
Patterson-Kelley Co.
Penick & Ford
B. F. Perkins
Picanol
Platt Bros, Ltd.
Plutte Koecke
Pneumafil
Presin Co.
Proctor & Schwartz
Qualitex
Raxhon Ateliers
Robert Reed
Robert Reiner
Republic Steel
Rhodia
Rieter & Co., Ltd.
Riggs & Lombard
Roannais Ateliers
Roberts Co.
B. S. Roy
Royal Worcester Ceramics
Rudel Machinery
Edward Rudnick
Ruti Machinery
S K F
Saco-Lowell
Saentis
Georg Sahm
Sample Weaving Machine
Sant'Andrea
C. G. Sargent's Sons
Adolph Saurer
Schaffhausen Knitting Mach.
Scharer
Schilde
N. Schlumberger
Schmidt Mfg. Co.
A. G. Scholl
Schweiter, Ltd.
Scott Testers
Ernest Scragg
Seydel-Woolley
Sheffield Corp.
Simco Company
James Smith
Snedeker & Co.
S. P. R. L. Sobelcard
Societe Alsacienne (SACM)
Sonoco
"Southern Textile News"
Spaulding Fibre Co.
Morris Speizman
Spencer & Halstead
A. E. Staley
Standfast Dyers & Printers
Steel Heddle
Steele Canvas Basket
Stellamcor
Sterling Eng.
Stewart-Warner
Stork & Co.
Superior Bolster
Svetema
Sykes, Inc.
James Talcott
Tattersall & Holdsworth
Taylor Instrument
G. H. Tennant
Terrell Machine
Texnovo
Texplant
"Textile Bulletin"
"Textile Industries"
"Textile World"
Textube
Textured Yarn
H. J. Theiler
Tomlinsons
Torrington
Trumeter
Trutzschler & Co.
Tubular Textile Mach.
Turbo
Unistel
U. S. Steel
U. S. Textile Machine
Uster
Vandenburgh
Van Vlaanderen
Veeder-Root
Verdol
Walton Laboratories
Warner & Swasey
Watson-Williams
Werner Machine
Werner Textile Consultants
Westinghouse Electric
Whitin
Wilson & Longbottom
W. W. Windle
Winsor & Jerauld
Woonsocket Napping
Yeomans
Alfred Zeffner

The starch arrives at the plant in hopper cars holding up to 103,000 pounds of the powdered pearl. Pipes (see insert) conduct air into the car and the pressure thus created forces the starch down the slide of the car and into a rotary unloader. From there it is carried by air in a pipe line to the top of the storage tank in the mill yard. A sweep arm inside the tank unloads the starch into a screw conveyor for its trip to the slurry room to the left of the tank. A warning system shuts off unloading operation and rings a bell in the overseer's office if the air pressure approaches 100 psi. The system will unload 20,000 pounds per hour.

Now it's automation in size preparation

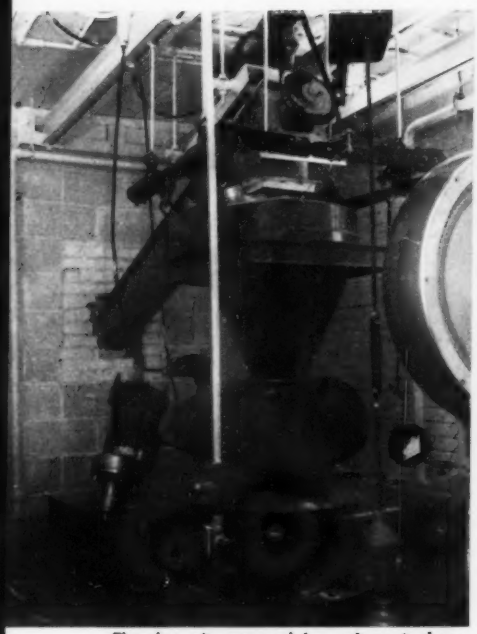
Staff prepared
Exclusive

THE Russell Manufacturing Company, Alexander City, Alabama, has completely automated its size preparation at Plant No. 6. Bulk powdered pearl starch arrives by rail, is transported pneumatically from the car to a 180,000-lb storage tank in the mill yard near the slasher room. From that tank to the size box the thick-boiling pearl starch is automatically and as needed:

1. Made into a cold-water slurry
2. Pumped to a Converter where it is cooked instantly
3. Kept in a holding tank for a predetermined period to control starch modification
4. Transferred to a flash chamber and there mixed with size compound
5. Drained into a storage kettle
6. Transferred by gravity to slasher size boxes.

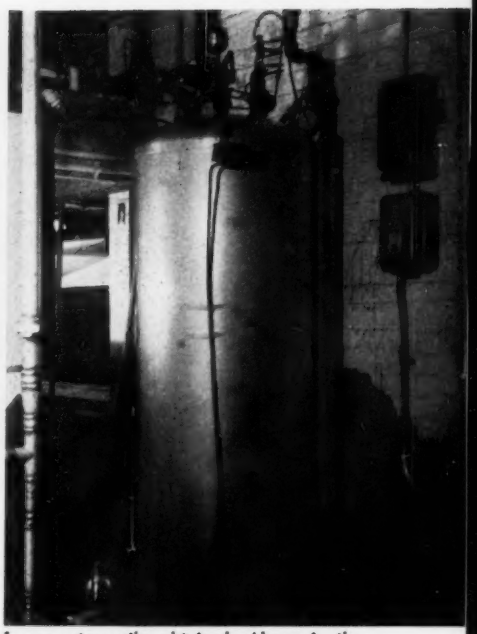
Benefits—Tangible and Intangible. The system has been in use such a short time that a full evaluation is not possible, but there are tangible benefits that bear emphasizing:

Aside from the labor needed to couple a car to its unloading device, unloading a 100,000-odd-pound delivery is strictly an automatic and unattended operation. The slurry preparation, the cooking, the converting, the storing, and the transporting to the size boxes are all automatic and unattended; bag cost is nonexistent; and the thick-boiling starch costs less per pound than did the thin-boiling product it replaced. And when these benefits are viewed in the light of the 1,000,000 pounds—give or take a few—of starch Rus-

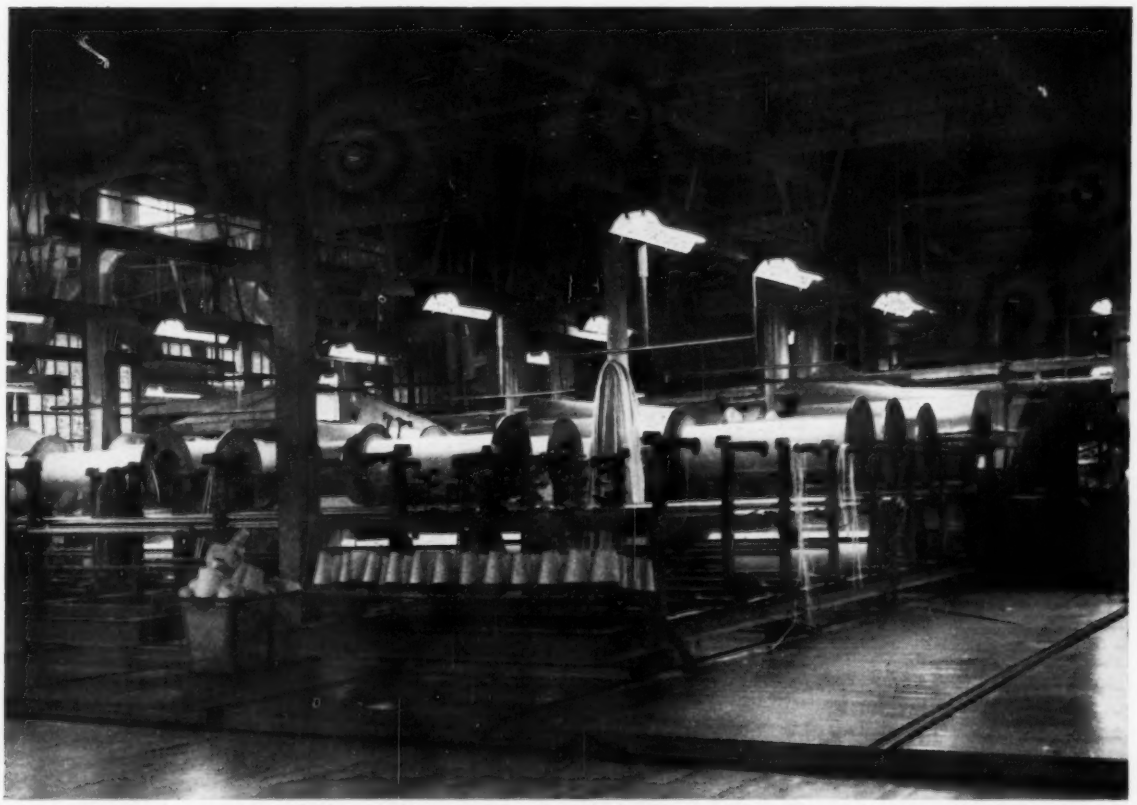


The slurry is prepared in equipment above. The conveyor (emerging from wall) drops the starch into the weighing chamber just below the sprockets, stops when weight reaches 57 pounds. When low-level probe

in slurry tanks signals for more starch, motor-driven sieve (behind curved arrow) sifts batch starch into the flared mixing chamber resting on tank. A metered amount of water (white arrows point to same water valve) is delivered by mechanism in center picture into mixing tank where swirling action makes a lumpless mix. Slurry then drops into storage tank to be kept under constant agitation until needed—never less than 1000 gallons are kept on hand. Most of the mixing apparatus is shop built or made

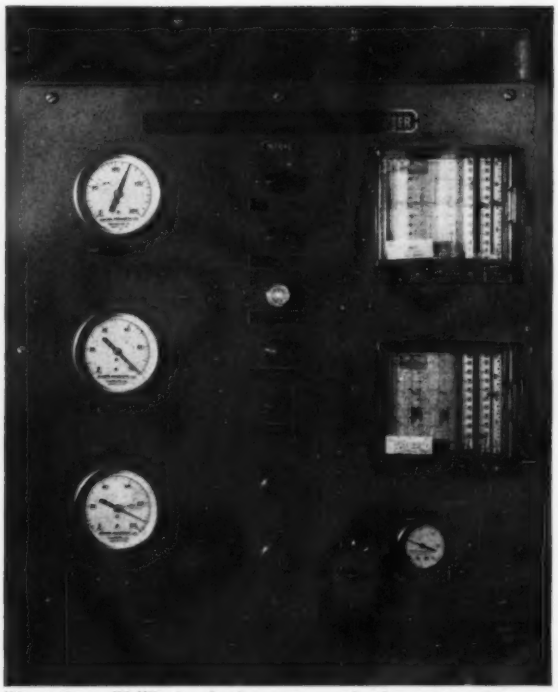


from parts easily obtained. Above is the holding tank and on top of it is the jet cooker. There is no turbulence in this tank, so freshly cooked starch does not mix, stays 8½ minutes in tank for full conversion.



The converted starch answers Russell's demands for a size that will perform equally well on the hundreds of styles that the firm weaves yearly. These range from ticking to elaborate garment fabrics. Incidentally, Russell counts all sets end-and-end into the slasher combs after the creel is completed and before it is wheeled to the slasher. The combs are in two sections and are lashed to the warp and passed around the slasher cylinders and set into comb carriers at the front. Only minutes are needed to cut out an old creel and be running on a new one. The system of tracks allows two men to shunt the heaviest creel about the room.

"Proof of the pudding." Weaving took in stride the transition to the new converted size. The weaver is Wallace (Blue) Thornton.



"Empty" or "full" signals from storage kettle actuate this control panel which in turn puts Converter through its four cycles.

sell uses per year, they are *important.*

"Weaving performance has risen," management points out, but now and then a new formula is tried and routine style changes bring about slight variations in production, so it is impossible at this time to trace such a rise to any one cause.

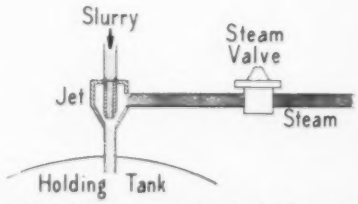
"But," management continues, "in running desize tests on a 30,000-yd set of 136-sley, 40s combed yarn, we ran less than ⅓ of one per cent variation in size content on 20 beams. This yarn was sized on a new slasher, however, at about 70 yards per minute."

No size box level controls are used. An overflow pipe in each unit drains away excess size and channels it to a reciprocating circulating pump that returns it to the storage kettles. Simple probes in the storage kettles monitor the levels there and signal the system to cook or to go on "hot standby."

No one needs to stand around awaiting trouble to develop, for the Converter is equipped with an alarm system that clamors insistently when air or steam pressure falls too low or when slurry or basic electricity supply fails. Being something of a perfectionist, it also flashes a red warning light, stops slurry input, drains the holding tank, and settles down to await corrective action.

The end product—a film-forming size of desired fluidity—may be stored as long as 48 hours and then reheated for use without undergoing a disqualifying change in viscosity.

The sizing compound is kept in a stainless steel tank at room temperature and is metered into the starch stream at the flash chamber. This latter device permits the starch to more or less "relax" as its pressure drops suddenly to atmospheric and its temperature falls to the boiling point.



When the storage tank signals for more size, these slurry and steam valves open. Slurry enters the jet through a nozzle that is completely surrounded by a steam ring. Through this ring the steam moves to impinge onto the slurry jet from all sides. The starch, intimately mixed with the high temperature steam, begins to swell at once and cooking occurs in a fraction of a second. A constant flow of slurry moves from the slurry tank to the cooking jet and is recirculated if not needed there.

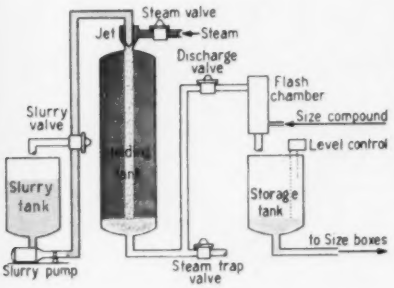
The flash chamber is a simple device mounted above the storage kettle. Here the starch temperature drops to the boiling point and the pressure falls to atmospheric. The small copper tube entering the bottom carries the size compound, which is metered into the starch stream at that point.

How the automatic size preparation system works

OPERATION of the Converter may be considered in four distinct phases as described at left below and illustrated by the corresponding drawings at the right. Each of these phases is shown on the control panel by a differently colored signal light (close-up photo of each appears in center column).

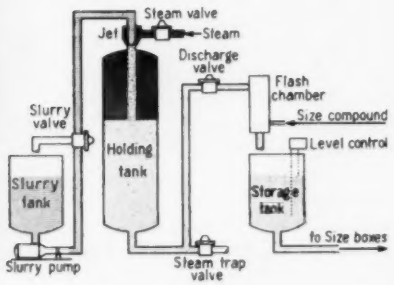
1

FILLING. When the low-level probe in the storage kettle signals for more starch, the steam and slurry valves open and jet begins its action. When the holding tank is filled to the desired level (at Russell 8½ min.) the discharge valve opens.



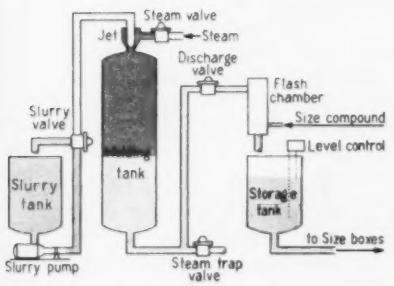
2

RUNNING. The cooked and converted starch will continue to flow from the holding tank to the storage kettle at the rate of four gallons per minute as long as it is needed there. At this rate each bit of starch that passes through spends 8½ minutes under the prescribed tank temperature and pressure (55 lb).



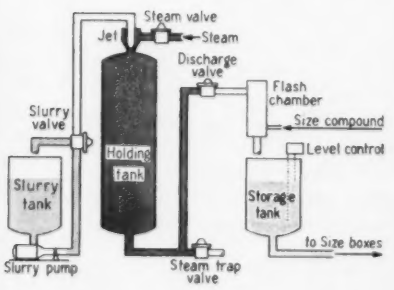
3

DRAINING. When the high-level probe in the storage kettle signals "enough," the flow stops. The discharge valve remains open as pumps continue to transfer predetermined volume from holding tank to storage kettle, taking 8½ minutes to empty the holding tank.



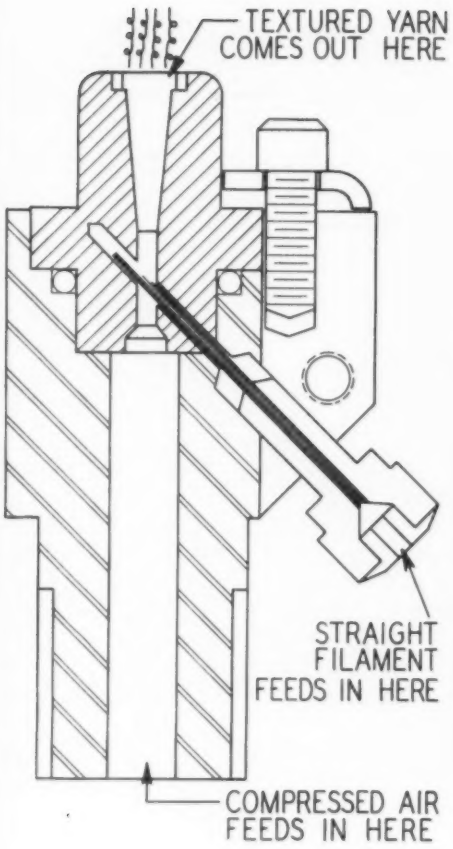
4

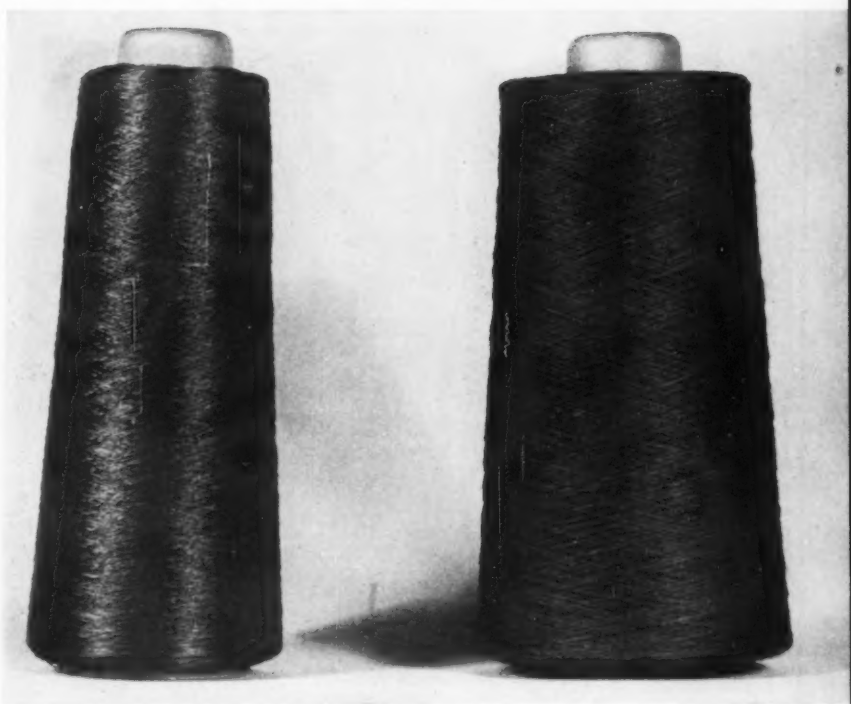
HOT-STANDBY. When the last of the starch is drained from the holding tank, the discharge valve closes. A burst of steam purges all residual starch from the holding tank and sends the diluted waste into the sewer. It then stands by, with temperature and pressure at operating level, awaiting signal from low-level probe in storage kettle. Condensate drains off through steam trap valve.



Drawings courtesy A. E. Staley Mfg. Co., designers of the entire system.

TASLAN





Regular filament yarn, left; Taslan textured yarn, right. Both cones weigh the same.

by Edward R. Berling, Jr.
Technical Service Section
Textile Fibers Department
E. I. du Pont de Nemours & Co.

Exclusive

TASLAN textured yarns are produced by a process which is deceptively simple in nature, yet at the same time extremely complex in its many ramifications. The textured yarn product and the process by which it is made are patented. Licensing arrangements for the use of the process and the registered trademark, "Taslan" are available from E. I. du Pont de Nemours & Co.

Basically, the textured yarn is manufactured by a mechanical means which changes the normal configuration of fibers, in a continuous filament or spun yarn bundle, by forming permanent loops in the individual fibers. This is accomplished by exposing the yarn to a turbulent zone of compressed air which (a) separates the filaments in the yarn bundle, (b) forms loops in the filaments, and (c) collapses the yarn bundle, thus interentangling the looped filaments into a new yarn structure.

Specially designed equipment for manufacturing Taslan textured yarns can be purchased. Many types of conventional throwing machinery can also be converted to produce the same product. The latter possibly offers an advantage from an investment standpoint. However, specially designed equipment offers the distinct advantage of lower operating cost through higher speeds, larger package size, and greater versatility.

Texturing Process. The basic function of the texturing machine is to feed an end of yarn from a supply package to the texturing device (air jet) and to wind the textured yarn coming from the jet onto a package suitable for shipping or further processing. The machine must provide positive drives for the yarn feed roll and yarn windup roll, facilities for changing the overfeed (i.e., the ratio of yarn feed speed to yarn windup speed) by small increments, and a constant yarn feed speed and yarn windup speed. A constant source of clean, dry air must also be provided.

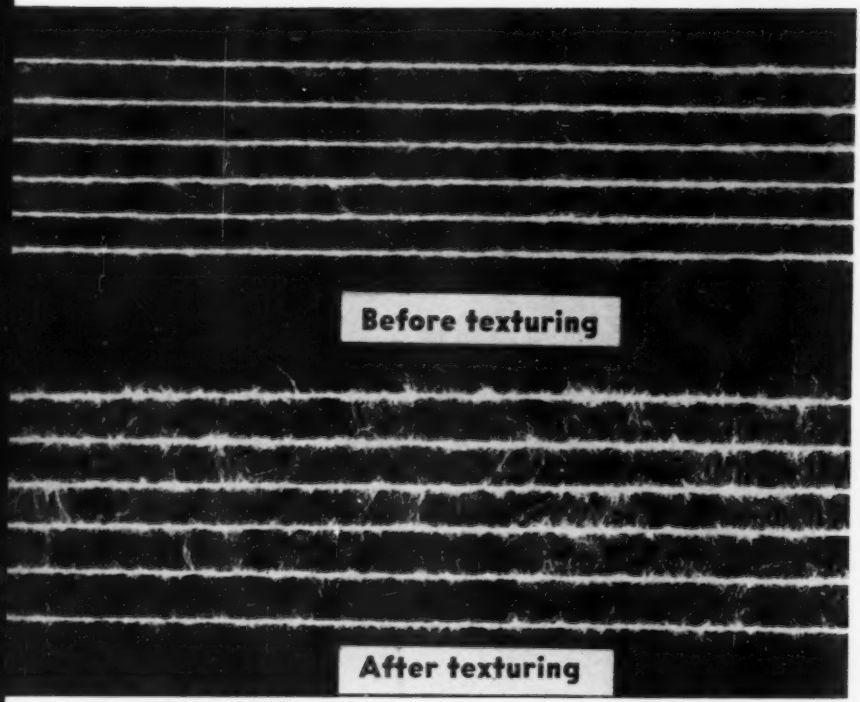
The reasons for these strict requirements are that (a) the denier of the yarn, after texturing, and the degree of texturing, are related to the overfeed of the yarn, and (b) the uniformity of the textured yarn is dependent on uniform action of the air in the jet, as well as a constant speed of yarn to the jet and away from the jet.

Originally, the process involved the texturing of a single end of yarn (from a single supply package), thus creating a uniform, bulky yarn with many of the desirable characteristics of both

This is the second in a series of articles covering the various types of textured yarns. The first, "Stretch Yarn," appeared in the August, 1959, issue of TEXTILE INDUSTRIES, pages 102-105. The next article in the series will appear in an early issue.

TEXTURED YARNS

How Taslan is made, how it's processed, its styling and end use possibilities



Yarn before texturing and after texturing by the Taslan process.

filament and spun yarns. The next logical modification of technique was the simultaneous texturing of multiple ends of yarn (from several supply packages and utilizing one feed roll per jet). This technique made it possible to create, for the first time, homogeneous blends of color, fiber, or denier from continuous filament yarns.

More recently, a core texturing technique has been developed. This involves the simultaneous texturing of two or more yarns at different overfeeds. In most applications of this technique, one yarn or group of yarns is fed to the jet at a very low overfeed (4 to 6 per cent). A second yarn or group of yarns is simultaneously fed, via a second feed roll, to the same jet at a much higher overfeed (up to 5,000 per cent). The former becomes the core of the textured product while the latter becomes the effect fiber. Depending on the rates of overfeed, the parent yarn deniers, and the parent yarn twist, a wide variety of unique yarn types such as chenilles, ratinés, and bouclés can be created.

It can be readily seen that this process is extremely versatile. Its limits are, as yet, undetermined. The wide variety of yarn products which can be produced appears to be limited only by imagination.

In addition to the three basic processing techniques, there are a multitude of other means of affecting the character, appearance, and aesthetics of Taslan textured yarns. Changes in air pressure, jet size, texturing speed, overfeed, yarn tension, yarn denier, denier per filament, number of filaments, and yarn twist will all have a significant effect on the finished product. In addition, vitually any fiber in either filament or spun form can be textured. All of these factors must be taken into consideration when developing a yarn to meet the specific requirements of any given end use.

Properties of Taslan. The outstanding characteristics of Taslan textured yarns are that they are different, different from both continuous filament yarns and spun yarns, yet combine some of the more desirable properties of both. They have the strength and uniformity of filament yarns, and a bulk and handle resembling spuns. They comprise a whole new family of raw materials. Virtually all yarns are texturable, and each can give a range of products.

The physical properties and aesthetic characteristics of Taslan textured yarns are derived from loops which are formed in the filaments or fibers of the yarn bundle. Since the extent and character of loopiness can be varied with a given raw material by changing the process conditions, and since different raw materials respond differently to similar treatments, the properties of Taslan can cover a wide range. The chemical properties of the yarns that are textured by this process remain unchanged as there is no stretching, shrinking, or heat treatment during processing.

Taslan textured filament yarns are inherently more uniform, bulkier, and stronger than their spun yarn counter-parts. By texturing, yarns can also be made with spun characteristics in fine counts not possible by other means. Taslan textured yarns differ from filament yarns in their greater bulk, in better covering power, in their subdued luster, and in their warmth of handle.

The comparative open structure, loft, texture, and covering power of these yarns permit opacity in fabrics without the need for tight constructions or heavy yarns, opening the way to new concepts

in functional, lightweight fabrics. Their added yarn-to-yarn frictional properties, and their ability to pick up and hold greater quantities of additives such as water repellents, lubricants, and waxes have proved a boon in the industrial field also.

Taslan textured yarn stands alone among the growing field of textured yarns. In addition to being the most versatile, it is also the only textured yarn which retains its bulk under reasonably heavy tensile loads. Its stability permits its use in tighter fabric constructions, which are generally employed for conventional spun staple or continuous filament yarns.

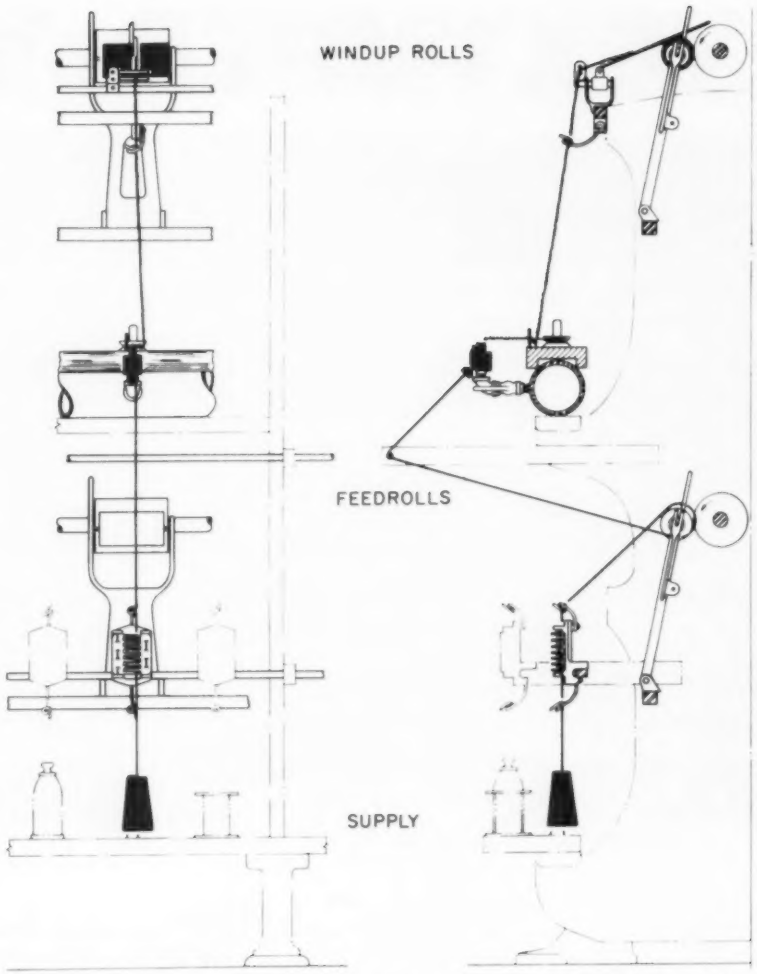
Although the full potential of Taslan textured yarn has not been completely demonstrated, it can be reported that yarns ranging from as low as 24 denier/20 filaments to as high as 5,880 denier/980 filaments have been prepared.

The increase in yarn denier also varies considerably. Changes in denier from zero (no change) to as high as 35 per cent increase have been possible when the single feed roll technique is utilized. In fact, for some unique cases, generally utilizing spun yarns, a negative overfeed resulting in a decrease in yarn denier and an increase in yarn diameter has been used.

When the double feed roll technique is applied, much greater increases in denier are possible. Experimental yarns have been made with overfeeds in the range of 5,000 per cent. These yarns were so bulky that the conventional windup could not be used. The yarns were delivered to a sliver can.

The degree of denier increase or overfeed should not be confused with the increase in effective diameter or physical bulk. Yarns textured in the 10 to 20 per cent overfeed range are increased in physical bulk by approximately 100 to 150 per cent. Depending on several factors, such as denier per filament, texturing speed, air pressure, and windup tension, proportional changes in bulk can be expected with changes in overfeed.

The tensile properties of Taslan textured yarns lie between those of continuous filament yarn and staple yarn of equivalent chemical type and intrinsic fiber properties. Tenacity and modulus are lower than continuous filament yarns and higher than spun yarn. Elongation generally follows the same pattern but may vary considerably if the loop structure of the textured product is not stable.

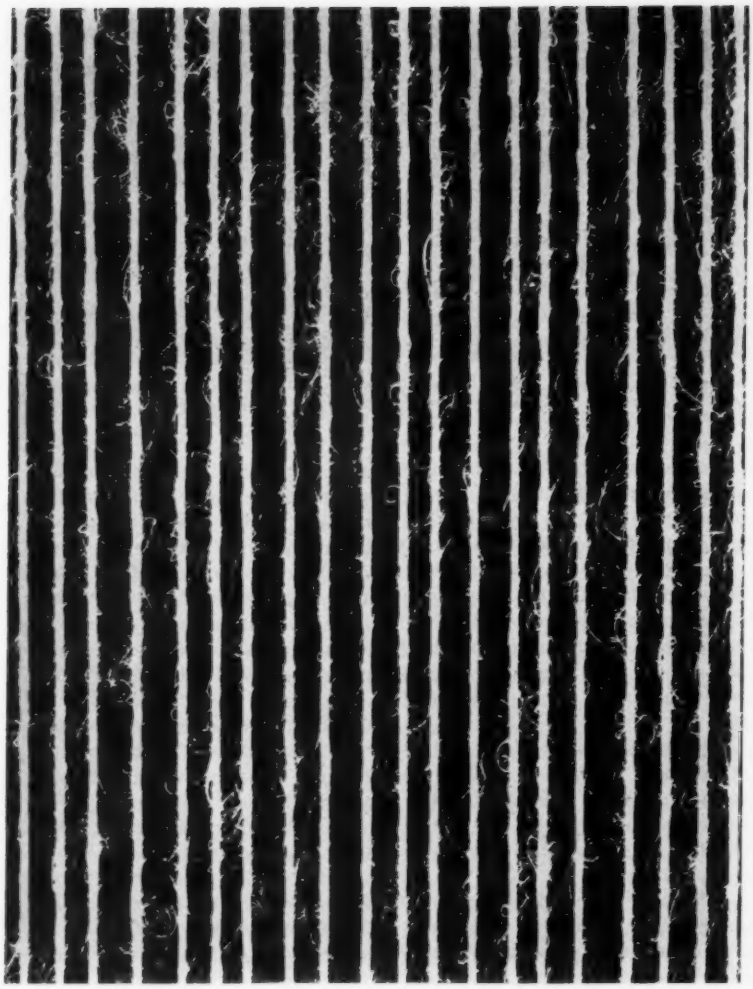


Many types of conventional throwing machinery can be converted to produce Taslan. Above is shown schematically the yarn path in the RD-5 conversion.

Specific functional properties of fabrics or other end-use applications of Taslan will depend to a major extent on the parent fiber type. However, a number of effects are qualitatively similar regardless of the fibers which are textured. When compared with fabrics made from the parent continuous filament yarn, the fabrics of Taslan have greater bulk, lighter weight, drier hand, higher covering power, more subdued luster, and greater tactile properties. When compared with spun staple fabrics made from equivalent denier fibers, fabrics made from Taslan textured filament yarns have either equal or lower bulk density, a drier, crisper hand, significantly improved freedom from pilling and fuzzing, and much greater uniformity.

Warping and Quilling Taslan. The bulk, surface characteristics, and tensile properties of Taslan textured yarns constitute the foundation of a unique, new concept in textiles. Taslan textured yarns are distinctly different from conventional filament and spun yarns. It is logical, therefore, to expect that these yarns will require somewhat different processing techniques.

Taslan yarns tend to cling to themselves and to rough surfaces



Photomicrograph of a low-denier, multifilament Taslan textured nylon yarn.

with which they come in contact. At times this may present a problem. Therefore, for warping or quilling it may be desirable to employ the following precautions:

1. Apply a surface lubricant to the yarn in winding.
2. Use 9°15′ instead of 3°30′ cones.
3. Lessen the hardness of the supply package.
4. Change the wind ratio of the supply package.
5. Adjust the speed of yarn take-off to form as large a balloon as is practical.

Headless packages and ironheads have been used successfully in warping and quilling without special precautions. However, as all Taslan yarns are not necessarily similar in degree of loopiness, some yarns require more careful handling than others. Warping and quilling tensions should not exceed those which would normally be used on the parent yarn.

Slashing. Although warps of Taslan can be woven without sizing, it is recommended that size be used. Experience has demonstrated that unsized warps show a definite tendency toward streakiness. This is attributed to variable elongation from end to end caused by the repeated pulling of the shedding motion. In constructions using yarns of 150 denier or finer, streakiness can be severe.

Sizes that are effective for filament yarns of a particular fiber, such as polyacrylic acid for nylon, are effective for Taslan textured yarns of the same fiber. It is suggested that approximately the same formulations be used for Taslan as are used on warps of the same fiber untextured. Since it is logical to expect the percentage of size pick-up to be higher on textured yarn, it may be possible to reduce the concentration of the size formulation to some extent after experience has been gained.

It has been found that after-waxing on the front of the slasher promotes the clean shedding of warps of "Taslan" yarn perhaps as much as any other single thing. However, as this technique has not been fully developed, individual mills will need to work out details to suit their own needs for specific fabric constructions.

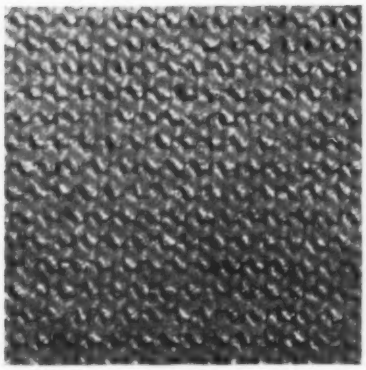
Recent studies on nylon have indicated that the sized nylon warp should contain 4 to 6 per cent wax based on the weight of the warp yarn. This reduced wax content not only gives satisfactory weaving performance, but also results in a reduction of wax costs and subsequent scouring time. While this information was developed with nylon warps, it is felt that 4 to 6 per cent wax represents a good starting point for determining optimum wax content for warps of other fibers.

Weaving Taslan. Taslan textured yarns drag noticeably on the fur in shuttles, particularly in running off the last third of the quill. As a result, the fabric may show irregular filling barré. Barré is more pronounced at lower pickages and is quite evident when the warp and filling yarns are of contrasting colors. It is recommended that shuttle furring be light or close-cropped, or both. Normal furring (only at the quill tip) as used for the weaving of spun yarns has given uniform results.

There is no indication that sizing, waxing, or oiling are beneficial to the performance of Taslan textured filling yarns. Yarns that are made with adequate quality control can be woven with a single shuttle.

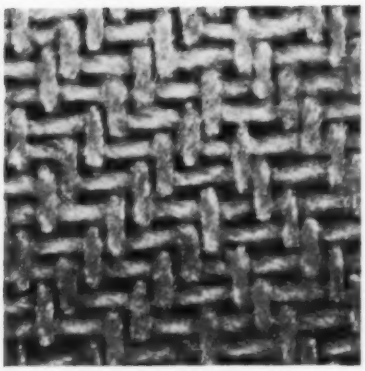
In warps made entirely of Taslan, the loops of adjacent warp ends have some tendency to become entangled in weaving. This prevents proper shedding and results in small floats near the selvages of the fabric.

Unless special precautions are



Broadcloth shirting with Taslan textured nylon in warp and filling.

Oxford shirting. Both warp and filling are Taslan yarns made from Dacron yarn.



Men's year-round suiting. Both warp and filling are Taslan textured Dacron yarns.

taken, it is difficult to make warps of Taslan textured yarn that will shed properly. This is not alarming, in view of the fact that fine-count, spun-yarn warps are difficult to weave without occasional floats. The higher the sley and the more interlacings in the weave, the more difficult it is to achieve top quality results. There is a practical limit to the sley that can be woven with any type of yarn whether filament, spun, or textured. The limit is very likely to be lower for Taslan yarns than for filament yarns.

Since the physical bulk of Taslan is not fully expressed by the textured denier, there may be a tendency to overconstruct fabrics of textured yarns and thus increase the opportunity for tangling. Each yarn and construction must be given individual consideration.

Some precautions that are important for good mechanical fabric quality are enumerated below:

1. For warp purposes select yarns with small uniform loops. Taslan textured yarns representing not more than a 15 per cent increase in denier over their parent yarns are likely to give better results in the tighter constructions than those with 20 to 25 per cent increase.

2. Use the finest possible reeding. Dent wires break up the interlocking of loops of adjacent ends. For example, the optimum reeding would be one end per dent for a 1 x 1 plain weave and two ends per dent for a 2 x 2 basket weave or a 2 x 2 twill weave.

3. The use of two reeds will give the effect of finer reedings. For example, two 60-dent reeds give the end-separating effect of a 120-dent reed if the end grouping in the first reed is split by the second reed. In this double reed technique the second reed is clamped to the back of the lay. Double reeds or false reeds are not necessary for many constructions and should be used only on constructions which experience has shown require them.

4. The staggering of harnesses, so that each harness provides a separate sheet in the shed, will break up the cross. Thus, adjacent ends have less opportunity to become entangled.

5. The use of more harnesses than spacing actually requires makes it possible to break up the shed crossing into more individual crosses. For example, 120-sley constructions of 96T/80-68 yarn could be drawn on four harnesses, but eight would be better as they would provide 16 crosses instead of four.

6. The use of as wide a shed opening as the reed will permit is a good precaution.

7. If separate selvage harnesses are used, they should be mounted behind the body harnesses so that they will not restrict the size of the shed opening for the body ends.

8. Early harness timing gives more time for the ends to separate. Timing as early as two inches has been possible on some warps.

9. Looms with abrupt harness motions promote clean shedding. Dobby head looms with special dobby cams have the same beneficial effect.

10. High warp tensions are instrumental in causing cleaner shedding. A full cross inserted between the drop wires and the harnesses localizes high warp tension in the shed area.

11. Heavy temples or burr temples are useful in holding the fell of the cloth at full reed width. This helps to maintain a uniformly high tension across the entire warp.

Knitting. Commercial experience to date has shown no indications of major problems in the circular knitting of Taslan textured yarns. Most of the minor difficulties that have arisen were resolved by wax application to the yarn and a change to a 9° 15′ cone.

In tricot knitting, difficulty in warping and knitting Taslan textured yarns which have very large, nonuniform loops indicates the need for small, uniform loops. This is especially true of high-strength yarns (nylon, Orlon acrylic fiber, and Dacron polyester fiber) having individual filament deniers of two or more.

Waxing usually is required for the successful warping and knitting of Taslan yarns. Application of wax from a water-wax solution or emulsion is considered more effective than the application of wax in solid form.

A desirable package is a 5° 57′ (taper) cone, preferably with a pineapple wind, or better still, the 9° 15′ cone normally used for spun yarns.

In general, processing conditions for Taslan textured yarns are dictated by the parent yarn. As an example, the room conditions for Taslan textured yarns of nylon should be about the same as for continuous filament nylon yarns.

Exceptions to this rule or points which deserve emphasis are as follows:

Although Taslan textured yarns have been warped successfully using both the direct and the indirect systems, it is suggested that, whenever possible, the direct method be used. This method is favored because of the better take-off characteristics of the yarn from direct warped beams. When using the indirect system, special care should be taken in "beaming down" to avoid end breakage because of excessive tension imposed on the yarn by inertia of the warp mill.

The tendency of Taslan textured yarns to cling to themselves and to the cone is aggravated whenever the cones are not properly aligned with the creel centering eyes. Correct cone alignment, satisfactory cone holders, and waxed yarn eliminate such undesirable occurrences. Also, it is helpful if the distance between the cone tip and the centering eye is equal to the height of the traverse of the yarn package.

The loopy structure of Taslan requires clean, smooth guide surfaces. The abrasive action of high strength synthetic yarns requires guides of hard ceramics.*

As would be expected, Taslan textured yarns warped in the described manner produce relatively soft beams as compared to filament yarns. The loopy nature of Taslan causes some snarling of ends as they are pulled through the guides by the threading tool. This difficulty can be minimized by keeping the length of the ends being threaded as short and as taut as possible. Before cutting off the tape, the ends should be slid back on the shank of the needles on the threading tool to facilitate their removal.

Needles should be set high enough to avoid having yarn loops catch on the beard of the needle. At the same time, needles and guides should be so aligned that the ends are not sheared by the needles as the guides pass between them.

Wet Processing. The process for producing Taslan textured yarns is strictly a mechanical treatment of the yarns. Therefore, no new or involved procedures are required for dyeing or finishing fabrics containing Taslan. The same methods and classes of dyes that are used on filament or spun yarn fabrics are applicable to fabrics containing Taslan.

Since fabrics containing Taslan can be handled on various types of equipment, the choice depends on the results desired. A loftier hand is obtained if the fabric is processed relaxed, as in a beck. Relaxing and working the fabric causes the loops in the yarn to come to the fabric surface. The more loops on the surface, the softer and bulkier is the fabric hand. In beck dyeing, rope marks are not as likely to form on fabrics of Taslan as on similarly constructed filament fabrics.

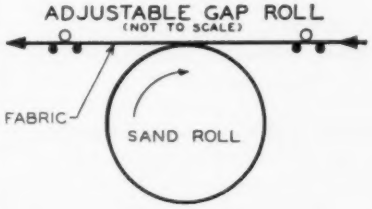
If a smooth or broadcloth type of fabric is desired, handling under tension, as on a jig, is suggested. Handling under tension does not remove fabric bulk but does result in a minimum amount of surface texture.

Procedures for scouring fabrics of Taslan textured yarns are determined by the nature of the fabric, amount and kind of size present, and the kind of hand desired. Frequently the yarn is sized and then heavily waxed to improve weaving efficiency. Care should be taken to remove these materials completely to insure good drying and to prevent excessive discoloration during subsequent processing.

Some fabrics containing Taslan require heat setting to obtain dimensional stability and to improve wrinkle resistance. The fabrics can be set by standard means: hot air, hot water, hot roll, or radiant heat. The exact times and temperatures are determined by the equipment available, nature of fabric, and the fabric end use. It is important that all oils and waxes be removed before heat setting, because they can cause excessive yellowing which is difficult to remove by wet processing.

If the fabric requires bleaching, normal bleaching techniques and formulations (as used on the untextured parent yarn) can be used.

In some cases the yarn loops on the surface of fabrics containing Taslan have a tendency to cling to themselves or to rough surfaces. This tendency can be reduced considerably in certain broad woven fabrics if they are lightly sanded to break the few longer catching loops and then finished with a good softening and lubricating agent. The best results (reduction of clinging tendency without a sueded or napped hand) have been obtained with a gap contact type sanding machine. These machines use about a 240-grit paper and have a speed of about 1000 rpm. The fabric speed is generally between 10 and 12 ypm.



The fabric should be scoured and heat-set before sanding or any other mechanical treatment used for breaking loops and should be dyed after the treatment.

Fabric characteristics and end use requirements will determine the equipment and procedures that can be used to dye the fabric. The chemical affinity of the untextured parent yarn is not changed by texturing. Therefore, fabrics containing Taslan can be dyed with regular classes of dyes normally used. The fastness properties of the dyes can be expected to be the same as on regular untextured yarn fabrics.

The softeners, lubricants, and antistatic agents that are normally used for untextured fiber can be applied to fabrics containing Taslan by conventional pad or exhaustion methods.

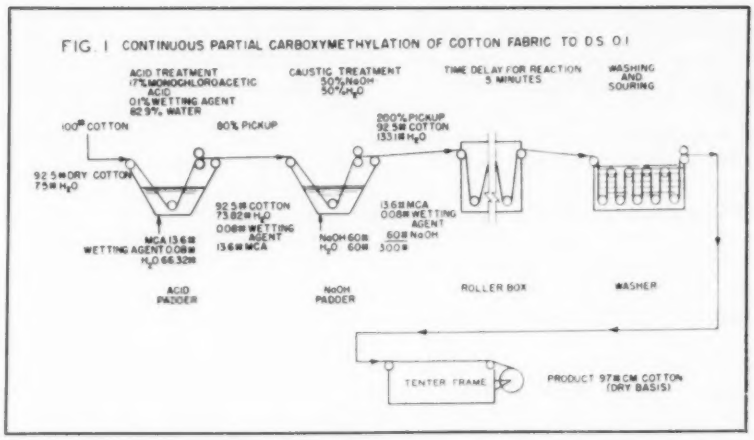
Styling and End Uses. The nature of fabrics containing Taslan is such that various mechanical and chemical treatments can be used to produce a wider range of effects and hand than is obtainable with fabrics of synthetic filament or spun yarns. This undeveloped feature offers the trade an additional opportunity for originality in designing and styling.

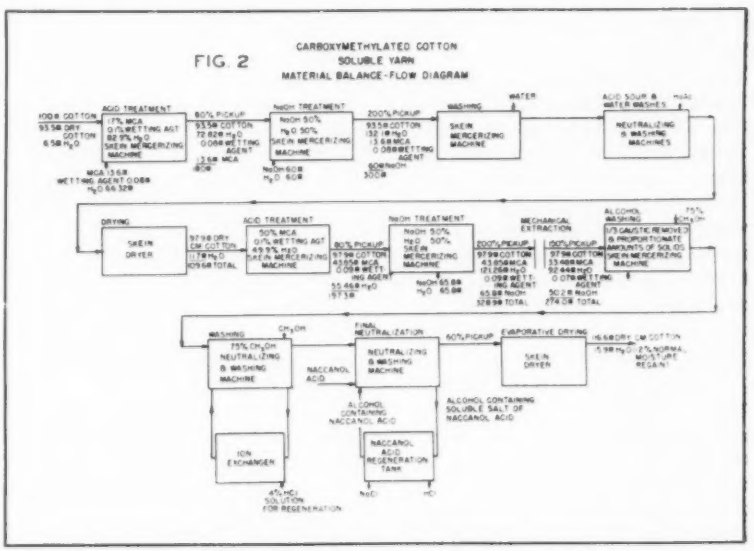
Continued on page 107

*Such as American Lava Corp.'s "AlSiMag;" or "Heanium," made by Heany Industrial Ceramics Corp.

How much will CM

by Kenneth M. Decossas[1]
Southern Regional Research Laboratory[2]
Exclusive





Partially carboxymethylated (CM) cotton (3, 4, 5, 6, 7, 9, 10, 11)[3], a new textile product of research at the Southern Regional Research Laboratory, is now being produced in the United States by one manufacturer. This manufacturer carboxymethylates cotton fabric for a captive use and will carboxymethylate cotton yarn and fabric on a commission basis.

Cotton in the form of fiber, yarn, or cloth may be carboxymethylated by impregnation with monochloroacetic acid (MCA) followed by treatment with strong sodium hydroxide. Two distinct types of products can be made differing chemically only in the degree of carboxymethylation, but having vastly different physical properties.

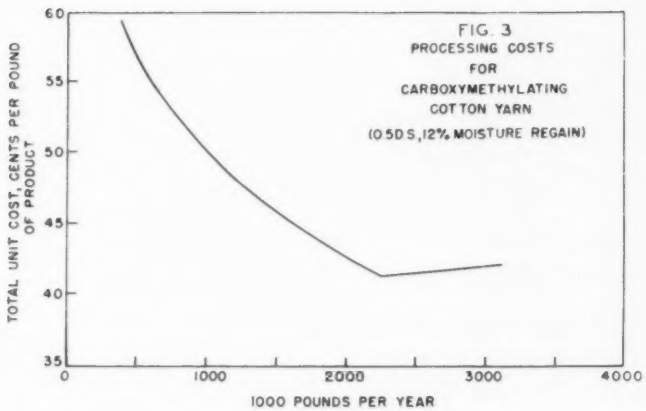
One product (degree of substitution less than 0.2) is a cloth with properties considerably changed from those of cotton. Among these properties are a built-in starched effect; increased moisture regain, water absorbency, and air permeability; increased breaking strength and elongation; changed dyeing characteristics, such as improved dyeing with azoics and an affinity for basic dyes; increased resistance to soiling from aqueous dispersions and greater ease of soil removal; cation exchange properties; high water swellability; built-in catalyst which will effect reaction of certain methylol resins with the modified cotton to produce wrinkle-resistance with good strength retention; and a greater receptivity to further treatment than ordinary cotton.

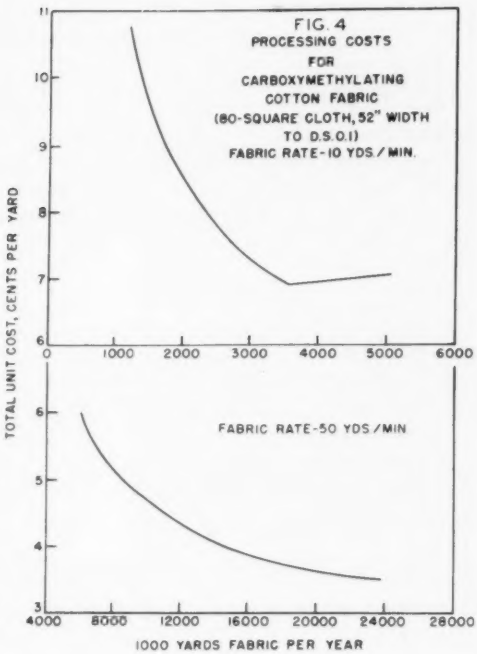
The other product (degree of substitution greater than 0.33), a water-soluble modified cotton, disintegrates upon contact with water or dilute alkali solution. Carboxymethylated cotton of this type is useful whenever a temporary, easily removable fiber is necessary. Lace and embroidery makers, shirt manufacturers, upholsterers, fur blenders, and meat packers have shown interest in the soluble cotton products.

In this report, cost data are provided for use in considering the economic feasibility of producing CM cotton. These cost data are estimates for hypothetical plant operations developed from laboratory data. Estimated investment costs for new installations, and

[1]Co-authors: Oscar J. McMillan, Jr., Robert M. Reinhardt, and E. Fred Pollard.
[2]One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture; it is located at New Orleans, La.
[3]Numbers in parentheses are literature references at the end of this article.

cotton cost?





processing costs and their component parts are reported for the batch partial carboxymethylation of cotton yarn to yield a soluble product, and for the continuous partial carboxymethylation of cotton fabric to yield an insoluble product.

THE PROCESSES

The processes involved are described in considerable detail in the references cited above, and are illustrated by the material balance-flow diagrams of *Figures 1* and *2*.

In the process of *Figure 1* for producing insoluble CM cotton with a degree of substitution of 0.1, the cloth is padded to a pickup of about 80% of an aqueous solution of 17% MCA containing a small amount of wetting agent. It is then passed through a 50% solution of sodium hydroxide and given a light pad to about 200% pickup to remove excess caustic. A five-minute time delay in a roller box is allowed for reaction, followed by preliminary washing with cold and hot water, souring with dilute acetic acid solution, final washing with cold and hot water, all in continuous washing ranges; and drying on a tenter frame.

In the process of *Figure 2*, skeins of cotton yarn are partially carboxymethylated to a degree of substitution of 0.5 by treating and reacting with a 17% MCA solution and then with a 50% MCA solution. The skeins are subjected to the first MCA and caustic treatments and given an initial water wash in a skein mercerizing machine, followed by additional water washings and neutralization with dilute acetic acid in a countercurrent neutralizer-washer, and drying in a skein dryer. This is followed by a similar cycle but using a stronger MCA treatment solution, methanol for washing, and "Naccanol" acid for neutralizing. The methanol is regenerated for reuse by ion exchange.

INVESTMENT COSTS

Plant Investment. Estimated total plant investment costs for new hypothetical yarn and fabric processing plants are given in *Tables 1* and *2*. The investment costs in *Table 1* are for new installations for continuous processing of fabric at rates of 10 and 50 yards per minute, and in *Table 2* for batch processing of skeins of yarn at rates of 1500 and 3000 pounds of product per shift.

The percentages applied to equipment costs in estimating installation costs, process piping, instrumentation, and outside lines were selected from published information (1, 2, 8, 12). Buildings would be of steel, concrete, and brick, with service facilities such as heating, ventilation, sanitary plumbing, lighting, and sprinklers. Building costs were estimated at $20 per square foot.

Engineering and construction costs and contingencies were estimated at 20% and 15%, respectively, of total physical plant costs, and were included in total plant costs.

Working Capital. Working capital was determined for the normal conduct of business for processing yarn or fabric by contract, considering chemical stocks, product inventory, extended credit, in-process inventory, and available funds needed for wages and other expenses during a four-week period.

PROCESSING COSTS

Chemicals. Chemical requirements shown in *Figures 1* and *2* were determined from laboratory data and are considered realistic in view of the present stage of

TABLE 1. CM Cotton Fabric Processing Costs for Hypothetical Plant Operations[1]

Annual Production (1,000 yd)	1200	2400	3600	5040	6000	12000	18000	25200
Annual Operation (days)	250	250	250	350	250	250	250	350
Daily Operation (hr)	8	16	24	24	8	16	24	24
Rate (yd/min)	10	10	10	10	50	50	50	50
Total Plant Cost ($)	351,236	359,489	359,489	359,489	993,093	1,012,924	1,012,924	1,012,924
Manufacturing Cost (cents/yd):								
Direct Costs:								
Chemicals	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Labor	1.4	1.5	1.5	2.0	0.3	0.3	0.3	0.4
Utilities	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Other	1.3	0.8	0.6	0.4	0.7	0.4	0.3	0.2
	4.4	4.0	3.8	4.1	2.6	2.3	2.2	2.2
Indirect Costs (cents/yd): (payroll overhead, general plant overhead, control laboratory, and packaging costs)	1.0	0.9	0.8	1.0	0.4	0.3	0.3	0.3
Fixed Costs (cents/yd): (insurance, taxes, and depreciation)	2.6	1.3	0.9	0.7	1.5	0.7	0.5	0.4
Contingencies (cents/yd):	0.4	0.3	0.3	0.3	0.2	0.2	0.1	0.1
General Expenses (cents/yd): (gen. admn. and overhead financing, and sales costs)	2.4	1.4	1.1	1.0	1.3	0.8	0.6	0.5
Total (cents/yd)	10.8	7.9	6.9	7.1	6.0	4.3	3.7	3.5
(cents/lb product)	36.4	22.2	19.4	20.0	16.9	12.1	10.4	9.9

[1]*Costs are those for processing 80x80, 52" wide, 3.10 lin yd/lb untreated fabric. Weight gain in processing is 10.3%; therefore, product weight is 5.7 oz/lin yd. Product is insoluble with Degree of Substitution equal to 0.1.*

TABLE 2. CM Cotton Yarn Processing Costs for Hypothetical Plant Operations

(Soluble Product, Degree of Substitution = 0.5)

Annual Production (1000 lb)	374	749	749	1497	2246	3144
Annual Operation (days)	250	250	250	250	250	350
Daily Operation (hr)	8	16	8	16	24	24
Rate (lb product/shift)	1,500	1,500	3,000	3,000	3,000	3,000
Total Plant Cost ($)	539,290	554,454	1,019,175	1,039,890	1,039,890	1,039,890
Manufacturing Cost (cents/lb):						
Direct Costs:						
Chemicals	15.5	15.5	15.5	15.5	15.5	15.5
Labor	6.4	6.8	6.4	6.8	6.9	8.9
Utilities	1.0	1.1	1.1	1.1	1.1	1.1
Other	6.6	3.6	6.2	3.4	2.5	2.2
	29.5	27.0	29.2	26.8	26.0	27.7
Indirect Costs (cents/lb): (payroll overhead, general plant overhead, control laboratory, and packaging costs)	3.0	3.6	4.0	3.6	3.4	4.2
Fixed Costs (cents/lb): (insurance, taxes, and depreciation)	12.3	6.4	11.6	6.0	4.0	2.8
Contingencies (cents/lb):	2.3	1.9	2.2	1.8	1.7	1.7
General Expenses (cents/lb): (gen. admn. and overhead, financing, and sales costs)	12.3	7.9	11.9	7.6	6.1	5.6
Total Manufacturing Cost (cents/lb product)	59.4	46.8	58.9	45.8	41.2	42.0[1]

[1]*Increased cost due to higher wage rate for weekend operating labor needed to increase annual production beyond 2,246,000 pounds of product.*

process development. From *Tables 1* and *2* it can be seen that chemical costs most frequently represent the largest single cost item. Unit prices used for chemicals are as follows:

Chemical	Unit Price
Monochloroacetic acid	19c/lb
Sodium hydroxide (76% Na_2O basis)	2.9c/lb.
Wetting agent	$1.00/lb
Methyl alcohol	32.5c/gal
Naccanol acid	40c/lb
Hydrochloric acid (18° Bé)	1.4c/lb

Labor. Labor costs are estimated as those applicable to a textile finishing plant, with skilled labor at $2.35 per hour and semiskilled labor at $1.62 per hour. Double time was allowed for weekend work and a 10 per cent night differential was used for second and third shift operations.

Utilities. Utility costs include those for steam, electrical power, and process water. Unit costs used were 70 cents per 1000 pounds of steam; 1 cent per kilowatt-hour of electricity; and 25 cents per 1000 gallons of water.

Total Processing Cost. In this estimate, total cost, as shown in *Tables 1* and *2*, is the sum of direct, indirect and fixed processing costs, contingencies, and general expenses. Total cost is exclusive of the cost of cotton used and is assumed to be for custom processing

without profit.

The total cost for carboxymethylating cotton yarn into a soluble product with a degree of substitution of 0.5, ranged from 42 cents per pound of product at an annual production of 3,144,000 pounds of CM yarn, to 59.4 cents per pound of product at an annual production of 374,000 pounds of CM yarn.

The total cost for carboxymethylating 80-square cotton print cloth, 52" wide, 3.10 linear yards per pound of untreated fabric, into an insoluble product with a degree of substitution of 0.1, ranged from 3.5 cents per yard at an annual production of 25.2 million yards, to 10.8 cents per yard at an annual production of 1.2 million yards.

Total unit processing costs from *Tables 1* and *2* are plotted versus annual production in *Figures 3* and *4*.

SUMMARY

This preliminary cost study shows that it would cost as little as 2.5 cents per square yard to carboxymethylate cotton fabric into a product having modified properties, such as a built-in starched effect, increased water absorbability, and greater receptivity to further treatments. It is also indicated that cotton yarn could be carboxymethylated into a water-soluble product with a potential for numerous applications at a cost of 41 cents per pound of product.

These estimates are for new installations, and are based upon current costs of chemicals, labor, and utilities, and include overhead, insurance, taxes, depreciation, and other contingencies and general expenses. The cost of the cotton and a profit on the treatment are not included.

The carboxymethylation can be carried out in standard processing equipment which is already available at many plants or can be readily obtained. The exception to this is the roller box which was designed to handle fabric for five minutes after padding, during reaction.

In plants already having equipment of the type needed for partial carboxymethylation, the total manufacturing costs in *Tables 1* and *2* could be less by as much as the depreciation cost, which represents about 65 per cent of fixed cost. The chemicals used are inexpensive and are produced in multi-ton lots by a number of chemical manufacturers.

Partially carboxymethylated cotton is now in production at one American plant. Custom production on a commission basis is available.

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We also wish to acknowledge the assistance provided by Miss Claire L. Weber, statistical clerk, Engineering and Development Laboratory, Southern Utilization Research and Development Division, in the preparation of tables for this manuscript.

Shifts in wool fabric weights and construction

■ PRODUCTION of men's and boys' wear woven wool fabrics during the first three quarters of 1959 exceeded corresponding 1958 yardage by 26 per cent, The Wool Bureau reported recently. This sharp recovery from depression levels reflected a gain of 5 per cent in consumer expenditures for men's and boys' clothing and the bigger retail stocks needed to service accelerated sales, it was pointed out.

The relative importance of woolen and worsted constructions was said to have approximated 1958 ratios for over-all yardage, that is 55 per cent/45 per cent. However, some significant shifts occurred in the production of fabrics of various weights. A decline in the output of worsteds weighing less than 9 ounces was more than offset by a sharp increase in worsteds weighing 9 to 13 ounces. The production of every weight range of woolens was maintained at, or exceeded, its corresponding 1958 volume.

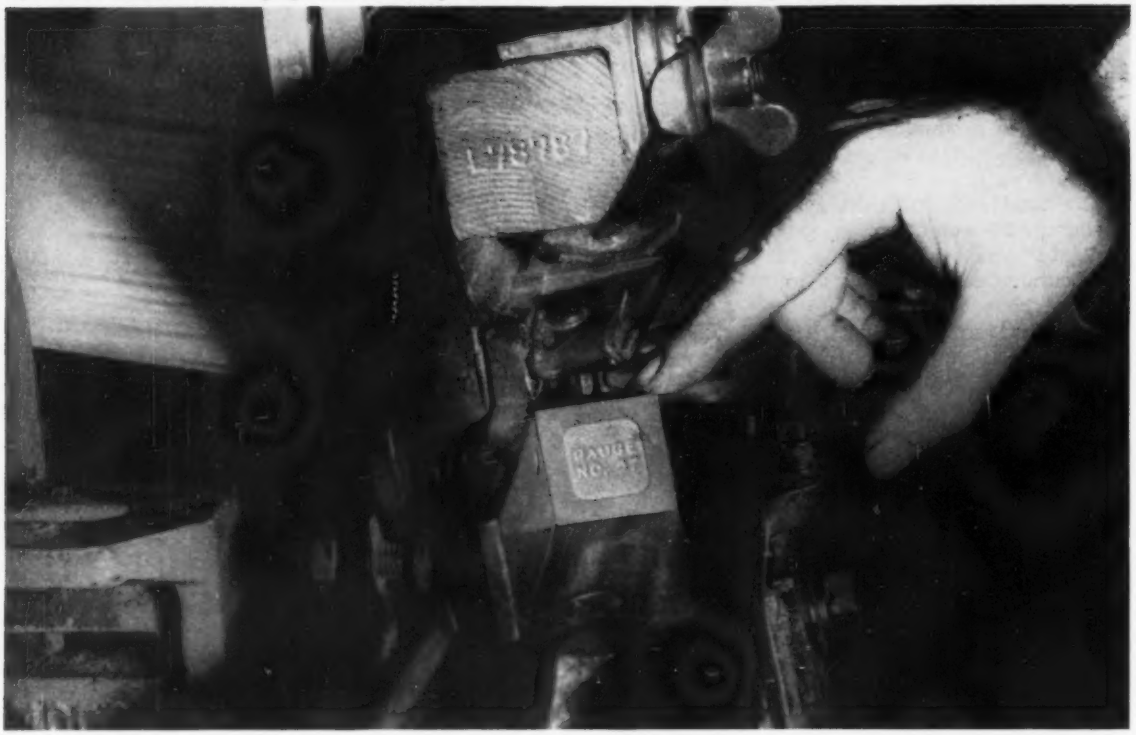
Thus, relative to the smaller total yardage of fabrics weighing less than 9 ounces which was produced in 1959, woolens accounted for 39 per cent and worsteds for 61 per cent, compared with 26 per cent and 74 per cent, respectively, in 1958. By the same token, the production of 9 to 13 ounce worsteds rose from 53 per cent to 59 per cent while woolens went from 47 per cent down to 41 per cent of total output in this weight range.

A modest increase in the production of heavier weight woolens accompanied the increased cuttings this year in the distressed overcoat and topcoat segment of the men's wear market, according to the report. If the average quarterly rate of the first three quarters of 1959 is achieved in the fourth quarter, the Bureau said, the annual 1959 yardage will better the 1957 volume of 129 million yards.

Women's and Children's Wear Fabrics. The volume of 1958 yardage was on a par with 1957, contrary to the sharp recession experienced in the men's and boys' sector of the market. Thus, the modest gain over 1958 of 11 per cent in the yardage produced during the first three quarters of 1959 represents continued expansion of this market, it was explained.

As between woolen and worsted contructions, total yardage showed a slight relative shift in favor of worsteds, which accounted for 9 per cent against 1958's 7 per cent. As among weight ranges, worsteds gained at the expense of woolens in weights *up to* 13 ounces while woolens were favored at the expense of worsteds in weights *over* 13 ounces. Thus these lighter weight worsteds upped their share of total yardage produced in these weights from 29 per cent in 1958 to 33 per cent in 1959. The lighter weights also accounted for 94 per cent of 1959 worsted yardage—up from 86 per cent in 1958.

An experienced fixer's finger tip on a corner of the reed square (back-box gauge) will tell him—even in the dark—if the box or reed is out of square. When the gauge is sitting snugly against both lay end and back of reed, the gauge resists a rocking motion from the finger tip. If the box-back-to-lay-end angle is less than 90°, the gauge can be rocked sideways with the finger tip; if greater than 90°, it can be rocked up and down. When lay ends and backs wear until such squaring becomes guess work replace them.



GAUGES in Draper loom maintenance

Why loom gauges are needed in the mill, and how to use them

Article 3—Influence of bad alignment on shuttle wear continued*

Staff prepared Exclusive

LATER IN THIS series of articles considerable space will be devoted to weave room organization and to presenting definite loom checking schedules. As far as is possible, a complete preventive maintenance program will be outlined. In the meantime, the discussion on lay alignment continues.

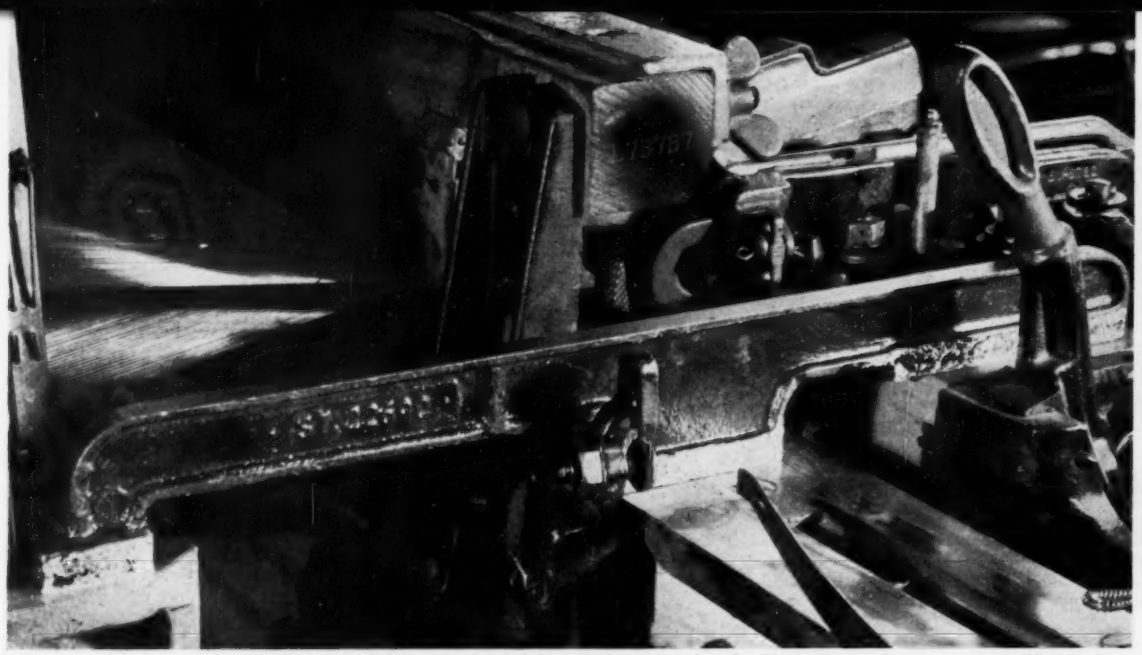
Keep a Square Box. The back box plate gauge or reed square, when rested on the lay end, allows the back box plate to be squared. See above photo. The lay ends must be correctly aligned before this setting is attempted.

A note of caution: On X-2, XD, and XP Model looms, the lay end is not square with the sword face. The loom builder left a slight overhang or forward tilt of the sword to keep the back box from working upward. That angle is 87° 30′ (bottom p. 95), but it is not a good idea to strain at keeping it thus, for box squaring is independent of it. On the E Model loom this angle is 90°, but in maintaining it many lays are twisted.

This is not hard to envision. If everything in the lay assembly were *perfect*, then the entire lay could be assembled, set into the loom, brought to the correct height, and pinned in place without there being a vestige of twist in the lay.

But swords are made of cast iron that now and then will creep from internal stresses and thus change the relationships of the machined surfaces; likewise, wooden lays will warp and their milled surfaces will change relationships.

*Article 2 of this series, devoted to lay alignment on fixed-reed looms, appeared in the February, 1960, issue. After the articles have appeared in TI, they will be reprinted in book form.—The Editors



While the angle iron gauge will find a twisted lay, the lay height gauge offers a more accurate means of judging the amount of twist to be removed and will simultaneously serve as a double check on lay height while the twist is being removed.

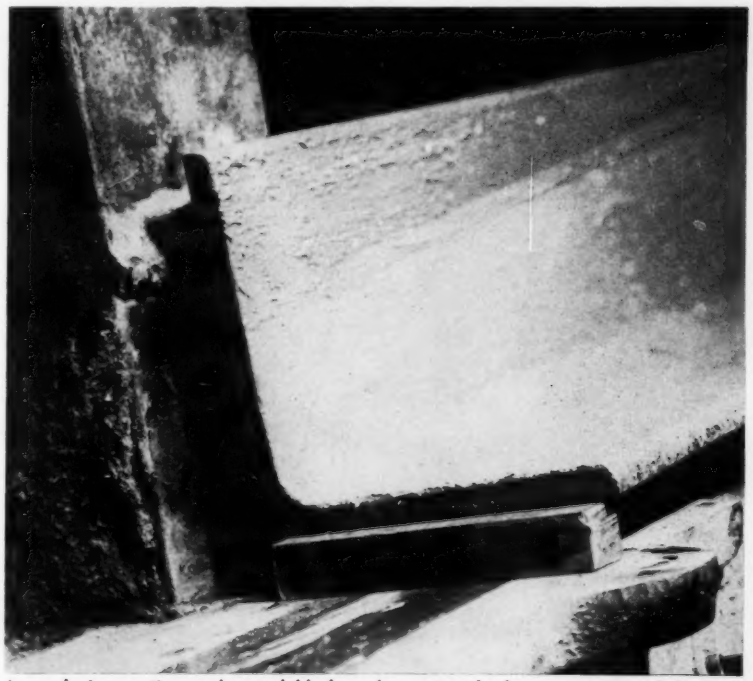
Other influences enter — crank arms may not be set alike or may change settings, and (this is quite often encountered) floors will vibrate enough to bounce the loom around and literally shake it out of level.

Let that angle vary a bit if necessary, and devote time and effort to bringing the lay up under the lay height gauge and in an untwisted condition by packing between lay and sword.

Keep the Reed Square. Unless the shuttle race and lay end alignment are known to be perfect, never attempt to check a reed for squareness without first placing the long straight edge flat on the lay and using it as a base for the reed square (photo p. 71, Jan.). Then proceed as the reed condition dictates.

If it is out of square, add shims between sword and hand rail or remove wood until the reed is brought back to the gauge.

Never place a loose shim behind the hand rail and leave it there. It

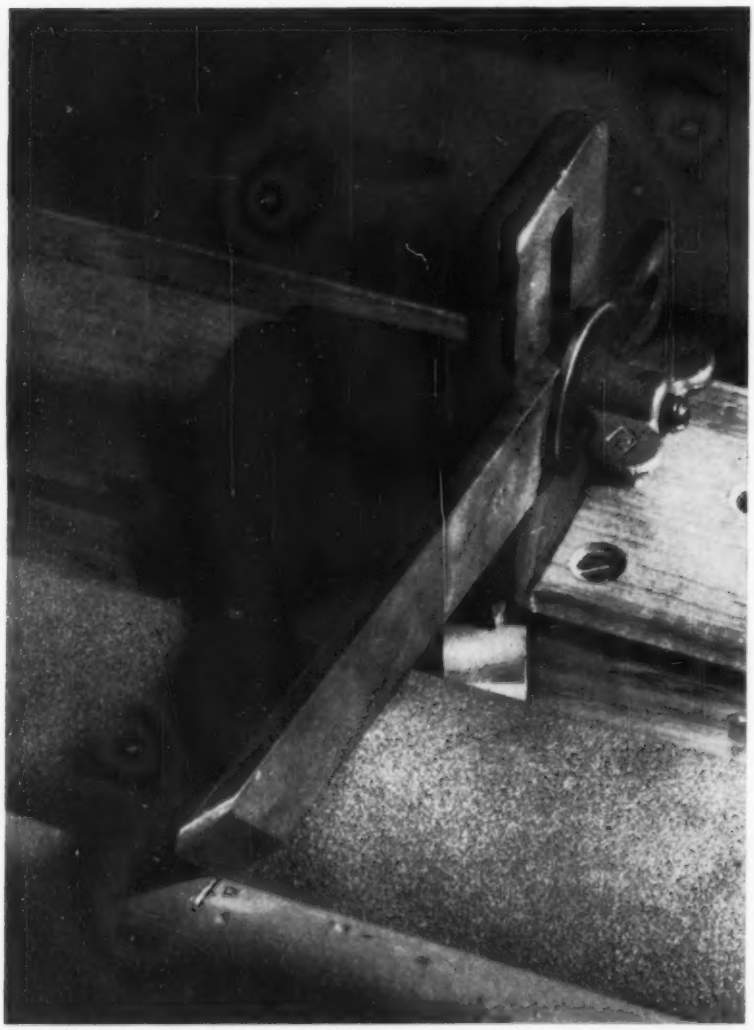


An angle iron resting on key-steel blocks and spanning the lay to rest on each lay end, will easily detect a warped lay. Unless it is known that these are not warped, however, the lay height gauge is the more reliable gauge for this work.

→

On X-2, XP, and XD Model looms the sword overhangs the lay slightly (note gap behind reed square), and the angle (87° 30') prevents the box back from working upward. Also, these swords contain wells or depressions into which the backs fit. So, if backs are not bought already machined to fit this recess, they must be fitted at the mill.

The lay gauge is placed between box back and loom horn to fix the limit of the lay's forward motion. Adjust crank arms with crankshaft at front center to get this setting. In this instance lay gauge positions the lay so the lay height gauge can be used.



Using the lay guide adjustments to drift the lay as needed, the whole assembly is centered with the lay centering gauge. Then the transfer motion must be checked to make sure loom is "ringing" correctly.

falls out every time the hand rail is loosened, and the chances are wholly in favor of its being lost eventually. If considerable wood is missing, have a wooden patch glued to the rail and work this patch down to the correct dimension. Otherwise, secure shims to the rail by wire brads or similar fasteners.

Do not ignore the condition of the reed headings. These sometimes will be bent into the path of the shuttle, and the wear patterns that they then introduce can be confused with other misalignment wear patterns.

They should project slightly ahead of the reed dent, but no farther than the reed manufacturer allows those in a new reed to project. Check a new reed or two with a short straight edge by sliding it along the dents until it strikes the heading.

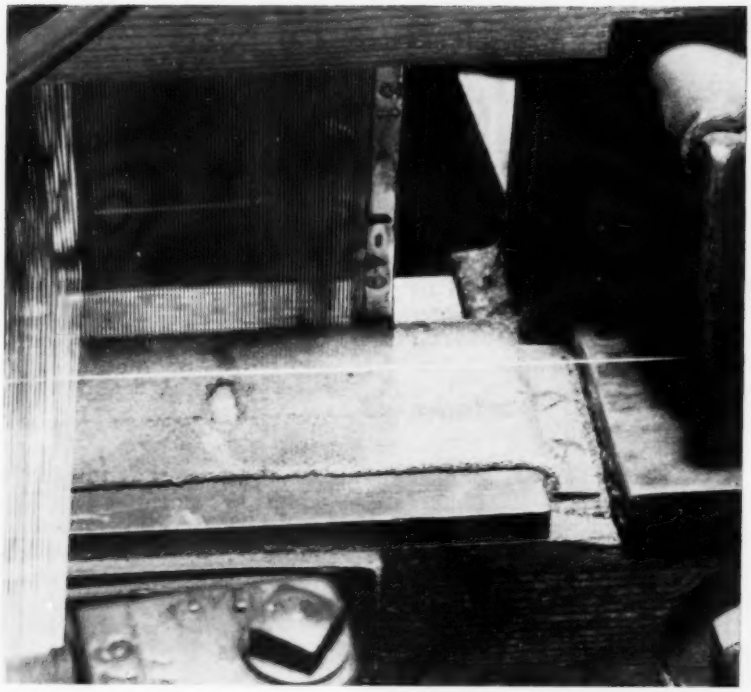
Then with this "feel" in mind, check the suspected reed. Severe damage at this point can scarcely be repaired with the reed in the loom, so replace it if the outcome is in doubt and let a reed specialist make the repairs.

Scrape out the reed groove, if necessary, to tighten the reed in its grooves before using the square.

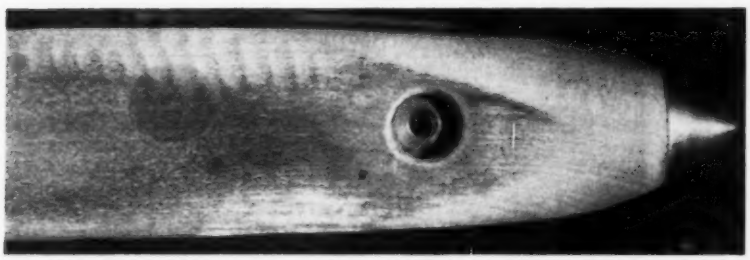
Twisted Lays. While the straight edge lying flat on the lay ends will disclose a marked twist or wind in the lay, it will usually fail to detect the slight deviations that can plague a fixer with wear at several points on the shuttle. It is for this reason that the angle iron was suggested in the first installment. The straight edge is a bit too flexible and usually is too narrow to help much. Incidentally, where twisting is encountered, it is well to check loom levelness, lengthwise and crosswise.

If the angle iron is not available, then the lay height gauge may be used instead by first removing the battery. In the long run, the lay height gauge is the more accurate, for angle iron has a way of getting bent now and then.

The boxes and reed may be in apparently perfect alignment, and squared accordingly, but if the boxes are twisted slightly in reference to each other the alignment is not complete. This being the case, the shuttle will have to roll



The hole in the felt race cover of this loom weaving filament synthetics is sufficient to break filaments in the finer denier yarns. Keeping lay ends and temples in alignment will prevent such abnormal wear and allow full life of covers to be realized and will prevent many ruptured filaments.



There is a slight washboard effect on the top edge of the shuttle and a bit of chafing visible at the center of the bottom edge. These points of wear are repeated on each side of the shuttle if the shuttle is forced to roll on each pick. But the damage may be so subtle that it is hard to detect. Furthermore, similar damage is caused by a reed or box being out of square. Such symptoms are not to be confused with the washboard pattern that is produced by reed misalignment and which runs the length of the shuttle.

to a degree determined by the severity of the misalignment each time it enters a box. And each time it is forced to roll it is subjected to abnormal wear!

Examine the damage done to the shuttle in the photo above. There is a slight washboard effect on the top edge and a bit of chafing visible at the center of the bottom edge. These points of wear are repeated on each side of the shuttle if the shuttle is forced to roll on each pick. But the damage may be so subtle that it is hard to detect. Furthermore, similar damage is caused by a reed or box being out of square. Only the gauges can tell!

Such symptoms are not to be confused with the washboard pattern produced by reed misalignment (p. 131, Feb. issue); this latter pattern is easily identified because the slight furrows run up and down the shuttle wall in relatively vertical directions and extend the length of the flat part of the wall.

Job breakdown

Operation

Inspecting shuttle for wear due to misalignment and taking any corrective action needed.

Key Points

1. Examine back and bottom of shuttle for washboard pattern and other evidence of shuttle abrasion.
2. Examine shuttle race for abnormal damage, high screw heads, splinters, warp marks, and wire brads or nails.
3. Inspect lay ends for high bolt or screw heads, cracks (especially on battery end), or burrs.

Alignment Steps

1. Stop loom with shuttle in left-hand box.
2. Slacken warp tension and drop harnesses if cloth is not to be cut, or cut cloth near fell and throw the end back over the hand rail for simple box and reed alignment.
3. Remove box fronts and shuttle.
4. Insert lay gauge (top photo, p. 96) and set brakes to hold lay in that position.
5. Check for twist by using angle iron gauge (page 95).
6. Correct for twist by packing behind lay. It is easier to use lay height gauge if extensive corrections are to be made here).
7. Replace shuttle race if necessary.
8. Align lay ends with shuttle race.
9. Square reed.
10. Align and square boxes.
11. Replace box fronts.
12. Hook up harnesses or pull over warp and prepare it for weaving.
13. Repair shuttle damage.
14. Adjust boxes to shuttle.
15. Start loom.

(To be continued)

Lap preparation decides comber noil,

A study of 72 combinations of preparation method, lap weights, and comber feed yields data on per cent noil and yarn strength. For the cottons studied, drawing-lap winding shows the best results. Tables predict effect of mill changes in combing organization.

by J. F. Bogdan, H. K. C. Woo, and C. H. Pan
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Exclusive

THE EFFECT on per cent noil removed at the comber and on the count-strength product of yarns of comber-lap preparation, lap weight, and feed at the comber was recently investigated at the Textile Research Center, School of Textiles, North Carolina State College. Data produced in the study, given in the accompanying tables, can assist mills in evaluating their combing-preparation systems in the light of the desired effect in terms of noil, yarn strength, or a combination of the two.

A total of 72 experiments was conducted: Each of six lap-preparation methods was varied with each of four lap weights and with each of three feeds at the comber. The results of each experiment in terms of noil removed and yarn strength are given in *Table 1*.

Averages of per cent noil by lap weight and feed at the comber are given in *Table 2*, with the cor-

TABLE 1. Per Cent Noil and Count-Strength Product of Yarn Produced in Varying Lap Preparation, Lap Weight, and Feed

		Feed at Comber					
		0.26"		0.22"		0.20"	
Lap Preparation	Lap Weight Gr/Yd	Noil %	C-S	Noil %	C-S	Noil %	C-S
SL - RL	600	17.6	2752	18.5	2665	19.2	2644
	750	17.6	2708	17.6	2768	18.0	2768
	850	17.5	2687	17.8	2736	18.1	2768
	950	17.6	2694	17.4	2784	19.9	2857
D-LW	600	16.3	2836	17.1	2825	17.0	2772
	750	16.4	2768	16.3	2865	17.0	2883
	850	16.6	2800	16.5	2785	16.9	2750
	950	16.9	2722	16.5	2827	17.1	2828
LW-D-LW	600	14.9	2725	14.8	2722	16.0	2779
	750	14.1	2783	14.2	2681	15.4	2765
	850	13.8	2767	14.0	2771	14.8	2801
	950	12.3	2664	12.8	2659	14.4	2777
XLW-D-LW	600	15.9	2751	15.4	2734	16.8	2644
	750	15.9	2762	15.3	2739	16.7	2732
	850	14.8	2736	16.0	2738	16.7	2772
	950	15.0	2668	15.9	2684	16.7	2688
D-D-D-LW	600	13.5	2673	12.9	2689	15.0	2680
	750	12.9	2721	14.0	2807	14.7	2691
	850	11.6	2824	12.3	2723	14.4	2736
	950	11.4	2633	12.6	2591	15.1	2768
LW-D-D-LW	600	14.3	2683	13.6	2684	15.0	2768
	750	13.1	2678	11.3	2707	14.7	2676
	850	12.2	2723	13.1	2696	13.2	2784
	950	12.6	2634	12.9	2676	14.0	2751

yarn properties

TABLE 2. Per Cent Noil Averages by Lap Weight and Feed at Comber

	Lap Weight (Gr/Yd)				
Feed at Comber	600	750	850	950	Avg
0.26"	15.4	15.0	14.4	14.3	14.8
0.22"	15.4	14.8	15.0	14.7	14.9
0.20"	16.5	16.1	15.7	16.2	16.1
Average	15.8	15.3	15.0	15.0	15.3

TABLE 3. Count-Strength Product Averages by Lap Weight and Feed at Comber

	Lap Weight (Gr/Yd)				
Feed at Comber	600	750	850	950	Avg
0.26"	2737	2737	2756	2669	2725
0.22"	2720	2761	2742	2704	2732
0.20"	2714	2752	2768	2778	2753
Average	2724	2750	2755	2717	2737

TABLE 4. Per Cent Noil Averages by Lap Weight and Lap Preparation

	Lap Weight (Gr/Yd)				
Lap Preparation	600	750	850	950	Avg
SL-RL	18.4	17.7	17.8	18.3	18.1
D-LW	16.8	16.6	16.7	16.8	16.7
LW-D-LW	15.2	14.6	14.2	13.2	14.3
XLW-D-LW	16.0	16.0	15.8	15.9	15.9
D-D-D-LW	13.8	13.9	12.7	13.0	13.4
LW-D-D-LW	14.3	13.0	12.8	13.1	13.3
Average	15.8	15.3	15.0	15.0	15.3

TABLE 5. Count-Strength Product Averages by Lap Weight and Lap Preparation

	Lap Weight (Gr/Yd)				
Lap Preparation	600	750	850	950	Avg
SL-RL	2687	2748	2730	2778	2736
D-LW	2811	2839	2778	2792	2805
LW-D-LW	2742	2743	2780	2700	2741
XLW-D-LW	2710	2744	2749	2680	2721
D-D-D-LW	2681	2740	2761	2664	2711
LW-D-D-LW	2712	2687	2734	2687	2705
Average	2724	2750	2755	2717	2737

TABLE 6. Drafting Organization — Comber Lap Preparation

Preparation	Weight per Ends Fed	Weight per End Fed	Draft	Weight Delivered
		Gr		Gr
1. SL-RL				
Sliver Lapper	20	60	2.00	600
	20	60	1.60	750
	20	60	1.41	850
	20	60	1.26	950
Ribbon Lapper	4	600	4	600
	4	750	4	750
	4	850	4	850
	4	950	4	950
2. D-LW				
Drawing	6	60	12	30
	6	60	9.6	37.5
	6	60	8.5	42.5
	6	60	7.6	47.5
Lap Winder	20	31	1.04	600
	20	39	1.04	750
	20	44	1.04	850
	20	50	1.04	950
3. LW-D-LW				
Lap Winder	16	62	1.04	960
Drawing	1	960	32.0	30
	1	960	25.6	37.5
	1	960	22.6	42.5
	1	960	20.2	47.5
Lap Winder	20	31	1.04	600
	20	39	1.04	750
	20	44	1.04	850
	20	50	1.04	950
4. Same as No. 3, except card sliver reversed.				
5. D-D-D-LW				
1st Drawing	6	60	6	60
2nd Drawing	6	60	6	60
3rd Drawing	6	60	12	30
			9.6	37.5
			8.5	42.5
			7.6	47.5
Lap Winder	20	31	1.04	600
	20	39	1.04	750
	20	44	1.04	850
	20	50	1.04	950
6. LW-D-D-LW				
Lap Winder	16	62	1.04	960
1st Drawing	1	960	24	40
	1	960	19.2	50
	1	960	17.0	56.5
	1	960	15.1	63.5
2nd Drawing	6	40	8	30
	6	50	8	37.5
	6	56.5	8	42.5
	6	63.5	8	47.5
Lap Winder	20	31	1.04	600
	20	39	1.04	750
	20	44	1.04	850
	20	50	1.04	950

TABLE 7. Lap Preparation*

Lap Preparation	Noil %	Skein Break	Yarn No.	C-S	TM	Uniformity Variation %	Uniformity Integrator
SL-RL	17.8	94.3	29.0	2736	4.35	74	12.0
D-LW	16.5	95.7	29.1	2785	4.13	70	11.3
LW-D-LW	14.0	98.3	28.2	2771	4.46	79	11.7
XLW-D-LW	16.3	93.1	29.4	2738	4.17	83	12.7
D-D-D-LW	12.3	94.2	28.9	2723	4.22	78	12.6
LW-D-D-LW	13.1	89.9	30.0	2696	4.20	78	12.0

Code: SL, sliver lapper; RL, ribbon lapper; D, drawing; LW, lap winder; XLW, reverse card sliver before lap winding.

*Lap weight, 850 gr/yd; feed at comber, 0.22"/nip.

TABLE 8. Lap Weight

Lap Weight Gr/Yd	Noil %	Skein Break	Yarn No.	C-S	TM	Uniformity Variation %	Uniformity Integrator
600	16.3	95.5	29.7	2836	4.26	73	12.3
750	16.4	94.4	30.3	2768	4.20	76	12.8
850	16.6	93.3	30.0	2800	4.33	73	11.7
950	16.9	87.2	31.2	2722	4.10	78	12.6

Lap preparation, draw-lap winder; feed at comber, 0.26"/nip.

TABLE 9. Feed at Comber

Feed at Comber In./Min	Noil %	Skein Break	Yarn No.	C-S	TM	Uniformity Variation %	Uniformity Integrator
0.26	16.6	93.3	30.0	2800	4.33	73	11.7
0.22	16.5	95.7	29.1	2785	4.13	70	11.3
0.20	16.9	92.3	29.8	2750	4.10	76	12.1

Lap preparation, draw-lap winder; lap weight, 850 gr/yd.

responding count-strength products in *Table 3*. Averages of per cent noil by lap weight and lap preparation are shown in *Table 4*, with the resulting count-strength products in *Table 5*.

The six different lap preparations used, and the code by which they are designated in the tables are as follows:

Code	Operations
SL-RL	Silver Lapper Ribbon Lapper
D-LW	4-Roll Drawing Lap Winder
LW-D-LW	Lap Winder 4-Over-5 Drawing Lap Winder
XLW-D-LW	Reversed Card Sliver Lap Winder 4-Over-5 Drawing Lap Winder
D-D-D-LW	3 Processes of 4-Roll Drawing Lap Winder
LW-D-D-LW	Lap Winder 4-Over-5 Drawing 4-Roll Drawing Lap Winder

The four lap weights used in the experiments were 600, 750, 850, and 950 grains per yard. The three comber feeds used in the experiments were 0.20, 0.22, and 0.26 inches per nip.

Cotton of 1 1/32" staple length and Strict Middling grade and the Saco-Lowell Model 54 comber were used in the study.

Throughout the entire series of experiments, the card sliver was

TABLE 10. Effect of Lap Weight and Feed on Weight Distribution of Fiber Length Groups—1 1/32" SM Cotton Lap Preparation: Draw-Lap Wind

Lap Weight, Gr/Yd	600				950			
Feed/Nip	0.26"		0.20"		0.26"		0.20"	
		16.3%		17.0%		16.9%		17.1%
Length 1/16"	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %
23	4.87		1.46		1.65		3.96	
21	11.54		7.29		8.16		8.39	1.85
19	25.78	1.82	23.88	1.25	24.93	2.07	27.79	3.36
17	22.63	5.65	24.08	5.15	21.27	2.79	22.93	5.85
15	14.48	4.25	21.03	7.69	18.45	7.75	16.08	14.79
13	7.64	9.66	10.99	8.30	11.12	11.05	8.09	12.68
11	6.06	15.49	5.16	15.68	4.67	14.45	4.77	12.00
9	2.81	16.90	2.75	15.14	4.97	15.64	2.89	3.30
7	1.62	15.66	2.04	17.48	1.18	15.95	2.52	15.16
5	1.49	15.52	0.78	21.95	1.44	17.68	0.87	20.31
3	1.08	14.12	0.17	3.76	1.48	9.62	0.87	6.79
1	.....	0.92	0.37	3.59	0.67	2.99	0.84	3.90
Mean Length, in.	1.04	0.55	1.01	0.56	0.99	0.55	1.02	0.61
Upper Quartile Length, in.	1.21	0.73	1.17	0.73	1.22	0.74	1.19	0.88
Coefficient of Variation, %	27.7	48.4	22.0	46.5	25.8	47.9	24.9	51.6

produced from picker lap furnished by a mill and using N. C. State-recommended card settings. The production was approximately 10 lb per hr and the card sliver weight was 60 gr per yd.

The timing, speeds, and settings of the comber were set for 1 1/32" staple as recommended by Saco-Lowell, except for the various feeds and drawbox drafts. A step-gauge setting of 5/16" was used.

Two passages of Whitin drawing frame and one passage of Whitin Super-Draft roving frame were used after combing. Whitin Casablancas spinning was used to spin 30s yarn with 4.0 twist multiplier, using double roving.

Manufacturing organizations for the six lap preparations are shown in the accompanying *Table 6*.

Conclusions resulting from the study with regard to noil, yarn strength, and yarn appearance for the cotton studied are as follows:

Noil. Noil percentage decreases

TABLE 11. Effect of Lap Weight and Feed on Weight Distribution of Fiber Length Groups—1 1/32" SM Cotton
Lap Preparation: Lap Wind-Draw-Lap Wind

Lap Weight, Gr/Yd	600				950			
Feed/Nip	0.26"		0.20"		0.26"		0.20"	
		14.9%		16.0%		12.3%		14.4%
Length 1/16"	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %
23	1.51		2.72		2.01		1.96	
21	12.19		8.56		11.98		4.12	
19	20.52	1.78	26.06	1.63	24.81	4.06	30.63	1.67
17	25.01	2.85	22.38	7.22	17.90	2.95	25.37	5.51
15	18.01	10.90	16.60	7.15	17.60	7.17	16.73	5.01
13	9.88	6.94	11.12	12.28	10.96	10.09	7.73	14.87
11	4.08	15.39	5.01	11.90	5.24	11.50	6.78	13.37
9	2.64	15.12	2.99	14.89	2.82	18.57	2.02	14.44
7	2.98	15.06	2.16	16.21	3.27	14.08	2.33	13.17
5	2.34	21.83	1.53	16.41	1.40	14.68	1.01	20.32
3	0.50	5.63	0.56	10.72	1.29	15.02	0.98	9.22
1	0.33	4.49	0.30	1.59	0.71	1.88	0.34	2.41
Mean Length, in.	1.01	0.55	1.03	0.57	1.00	0.55	1.01	0.54
Upper Quartile Length, in.	1.18	0.73	1.18	0.78	1.19	0.74	1.17	0.76
Coefficient of Variation, %	25.0	48.6	23.5	48.1	26.8	50.9	23.2	56.6

TABLE 12. Effect of Lap Weight and Feed on Weight Distribution of Fiber Length Groups—1 1/32" SM Cotton
Lap Preparation: Reverse Card Sliver-Lap Wind-Draw-Lap Wind

Lap Weight, Gr/Yd	600				950			
Feed/Nip	0.26"		0.20"		0.26"		0.20"	
		15.9%		16.8%		15.0%		16.7%
Length 1/16"	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %
23	2.04		2.77		3.33		4.85	
21	17.42		8.46		7.26		14.17	
19	27.47	2.17	20.09		25.37	1.04	22.52	2.95
17	17.52	3.02	27.74	3.25	21.58	5.73	22.28	3.22
15	17.39	3.87	15.63	6.00	20.35	4.52	17.74	5.83
13	5.63	13.27	14.92	9.83	8.02	9.37	7.54	11.12
11	5.23	14.46	4.33	11.89	7.66	18.27	4.34	12.51
9	3.55	17.65	2.13	17.89	1.56	7.95	2.79	11.19
7	1.91	15.95	2.13	17.21	2.10	15.27	1.92	19.50
5	0.94	17.79	1.15	19.32	1.86	17.49	0.77	20.58
3	0.37	9.27	0.37	13.22	0.57	15.17	0.54	9.16
1	0.54	2.54	0.24	1.39	0.33	5.19	0.54	3.93
Mean Length, in.	1.05	0.55	1.01	0.51	1.01	0.52	1.05	0.53
Upper Quartile Length, in.	1.23	0.72	1.16	0.69	1.18	0.72	1.22	0.73
Coefficient of Variation, %	23.6	46.6	22.7	47.3	24.2	54.5	23.6	52.2

TABLE 13. Effect of Lap Weight and Feed on Weight Distribution of Fiber Length Groups—1 1/32" SM Cotton
Lap Preparation: Lap Wind-Draw-Draw-Lap Wind

Lap Weight, Gr/Yd	600				950			
Feed/Nip	0.26"		0.20"		0.26"		0.20"	
		14.3%		15.0%		12.6%		14.0%
Length 1/16"	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %	Sliver %	Noil %
23	2.93		1.80		4.41		2.39	
21	19.82		13.69		14.30	1.17	11.82	
19	20.63	0.88	19.69	2.60	26.73	2.51	26.10	1.35
17	20.20	4.76	24.82	5.46	21.78	4.28	18.83	4.09
15	16.35	5.58	17.46	2.93	12.06	7.32	16.44	6.42
13	8.77	10.10	10.39	10.96	9.69	8.73	10.20	5.27
11	4.08	12.38	5.66	14.00	4.31	5.98	6.10	16.32
9	2.56	10.58	1.60	14.47	2.44	21.13	3.30	18.75
7	1.48	24.35	1.90	16.63	2.00	17.28	2.16	18.58
5	1.21	14.52	1.80	18.28	1.10	20.56	0.88	16.59
3	0.91	12.86	0.57	10.52	0.30	7.12	1.14	7.67
1	1.04	3.98	0.63	4.15	0.87	3.91	0.64	4.98
Mean Length, in.	1.04	0.52	1.01	0.54	1.05	0.55	1.01	0.53
Upper Quartile Length, in.	1.24	0.71	1.19	0.78	1.22	0.71	1.20	0.68
Coefficient of Variation, %	25.8	51.0	24.4	51.2	24.2	51.8	25.5	48.0

with increasing feed.

Noil percentage decreases with increasing lap weights up to 850 grains per yard, after which there appears to be no change.

The sliver-lapper-ribbon-lapper preparation gives the highest noil percentage.

The lowest noil percentage is obtained with the lap-winder-drawing-drawing-lap-winder preparation.

Yarn Strength. There is no significant change in yarn strength with changes in comber lap feed, except in the case of the 950 grains-per-yard lap, where the strength increases with decreases in feed.

The drawing-lap-winder preparation produces yarn of the highest strength.

The lap-winder-drawing-drawing-lap-winder preparation produced yarn of the lowest strength.

Appearance. The sliver-lapper-ribbon-lapper yarns have poor appearance in general. The drawing-lap-winder yarns have good yarn appearance.

It was concluded that for 1 1/32" SM cotton, the best yarn, considering the factors of noil, yarn strength, and yarn appearance, is produced with the following organization:

Preparation—4-roll drawing-lap winder

Lap Weight—850 grains per yard

Feed at Comber—0.22" per nip

Supporting data for these conclusions, indicating that this organization produces yarn best in uniformity, are given in *Tables 7, 8,* and *9.*

The effect of lap preparation, lap weight, and feed on per cent weight distribution of fiber length groups, as determined by Suter-Webb fiber length tests, is shown for four preparations and for the extremes in lap weight (600 and 950 gr/yd) and in feed (0.20" and 0.26" per nip) are shown in *Tables 10, 11, 12,* and *13.*

The data show that the draw-lap wind preparation tends to produce lower amounts of short fibers in the sliver and higher amounts of short fibers in the noil; higher amounts of long fibers in the sliver and lower amounts of long fiber in the noil.

Non-cellulosic fiber production capacity to increase 27% by 1961

■ A SURVEY of U. S. man-made fiber producing capacity reveals that at present it is 2,345,000,000 pounds annually, according to the *Textile Organon,* statistical bulletin of the Textile Economics Bureau, Inc.

This current production capacity consists of 1,376,000,000 pounds of cellulosic fibers (except acetate staple and tow), 809,000,000 pounds of non-cellulosic fibers, and 160,000,000 pounds of textile glass fiber, the report indicated.

By next July, total capacity is expected to reach 2,474,000,000 pounds, a gain of 5.5 per cent. Projected capacity by March of 1961 is placed at 2,610,000,000 pounds.

A further increase to 2,710,000,000 pounds is anticipated by November of 1961; at that time the total will comprise 1,367,000,000 pounds of acetate yarn and rayon (off 1 per cent), 1,025,000,000 pounds of non-cellulosic fibers (up 27 per cent), and 318,000,000 pounds of textile glass fiber (up 98 per cent).

Figure 1. 12/4 Jacquard Wilton loom, with four units of 3/4 machines.

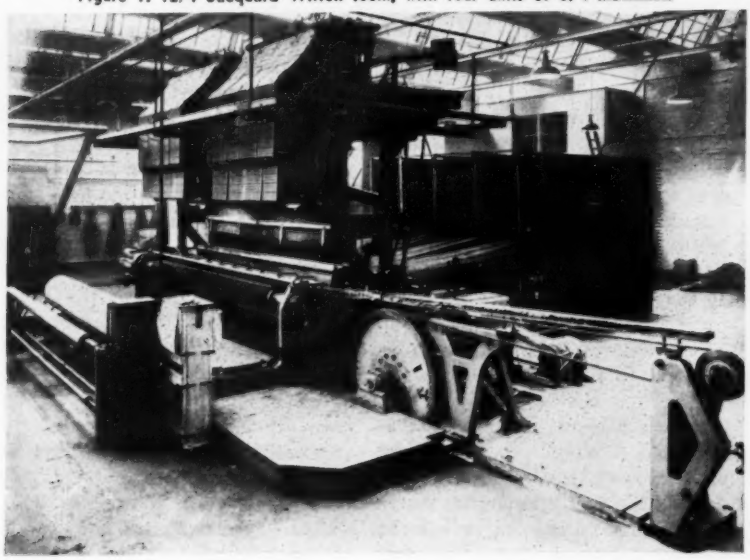
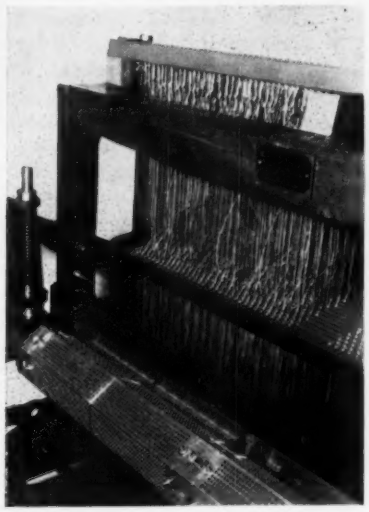


Figure 2. Cordage Jacquard, showing movable comberboard raised, lifts those bands with knots above slit of "key hole."



What's new in carpet Jacquards

Now they break away from the usual single-shot lift

by A. Crossland
Exclusive

UNTIL RECENTLY the sole function of the Jacquard in carpet weaving has been to select or present pile yarn colors for tufting. Foundation cloth structures are simple and regular, and easily handled by heddles. The latest attempts in Wilton to vary the pile yarn effects are developments of the older-type Jacquards, but for the first time they break away from the usual single-shot lift which has up to now been the universal rule. There has been patterning in plain colors, of course, by means of missing tufts, and by employing different heights of pile, but always the pile lift has been one shot only over the filling.

In reviewing the different Jacquards used in the carpet industry, a variance of application is noticed. Wilton wire loom and double-face looms need selection of color in the form of warp sheds for the passage of the shuttle, as in *Figure 3*, whereas in gripper Axminster the required colors are assembled at gripper level only for tuftmaking. Wilton loom Jacquards, cordage or wire, are pretty much the same in principle from the various makers, but the Axminster type carries the stamp of the individual firm, particularly in the method of presenting the card cylinder. The latest of these handles 16 frames.

Wilton. The newcomer to the trade is often astonished by the simplicity of the still-prevalent cord machine. There is no gainsaying its effectiveness and facility in working. It is based generally on a ¾ unit (i.e., for weaving 27″ wide) and may be built up to composites of say 15-foot width. A 9-foot loom (12/4) would therefore carry four unit machines (see *Figure 1*). The pitch of the harness bands would

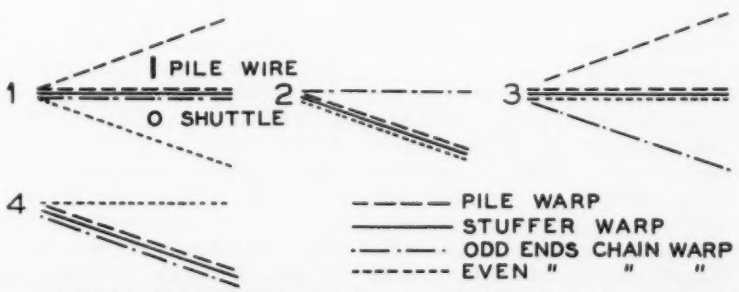


Figure 3. The four sheds of the Wilton two-shot weave: 1. Pile warp over wire; "dead" pile, stuffer, and odd chain ends over shuttle. 2. Odd chain ends over shuttle, remaining warps under shuttle. 3. Pile warp over wire; "dead" pile, stuffer, and even chain ends over shuttle. 4. Even chain ends over shuttle, remainder under shuttle.

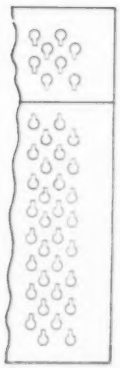


Figure 4. Rows of 8 + 2 "key holes" in moving comberboard section. Round hole part admits knot; slit holds knot and causes band to lift.

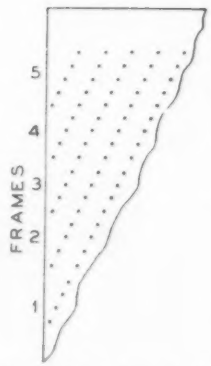


Figure 5. Section of bottom moving comberboard, showing four staggered rows of five single band holes, in 20-hole repeat.

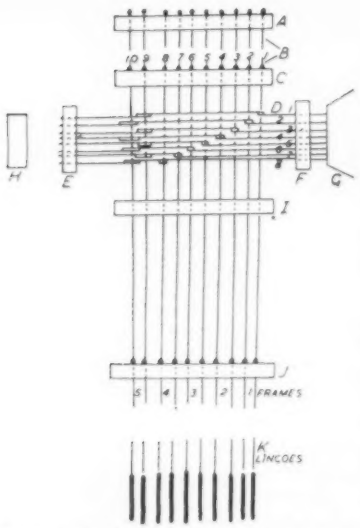


Figure 6. Cordage Jacquard—5-frame Wilton.

be arranged to take the maximum number of warp ends the loom is likely to require. *Figure* 2 shows a card cylinder drilled at 256 pitch (i.e., to control 256 pile ends per frame in 27").

Briefly, the harness bands are hung from a top stationary board, then threaded through a movable comberboard, which is the main agent for making the pile. Each cord is knotted above the comberboard—at low level—in a simple but efficient expedient for raising the relevent pile thread. The holes through which the bands pass are in the shape of a key-hole—see *Figure* 4. The round part is large enough to admit passage of the knot tied on the cord, but when this comes over the slit of the "key-hole," it is lifted by the rising comberboard.

In a five-frame Jacquard there will be rows of ten key holes, eight being arranged with the round eyes towards the front of the loom —and the card cylinder—and two in the reverse position. There are two staggered rows in a "repeat," so that 20 pile ends are served in four lots of a five-frame group. These will be seen later to correspond to the staggered rows of the bottom comberboard.

Figure 5 illustrates a section of bottom movable comberboard, where rows of five holes are made to take the five pile ends from the five frames of cheeses or bobbins behind the loom. There are four staggered series of these. The Jacquard has the job of selecting one color from each of these groups of five for tufting.

Now referring to *Figure* 6, a sketch showing the cordage Jacquard, it will be seen how the bands, after leaving top board A and being threaded through the key-holes in moving comberboard C, pass through needles D, of which there are eight. Each needle has a short eye to accommodate the front eight bands, and a longer eye for the back two bands. So when cylinder G presses, the blanks move needles so that knots of the front eight bands move over their respective slits in the key-hole, there to be lifted by the top comberboard. At the same time knots of the back two bands on the same needles move over the round eye of the key-hole and so remain stationary. Punches in the card have the converse effect.

The ten bands are to be seen as five pairs, to control two sets of five ends from the five frames. The pair marked 1 and 2, for instance, are for the first frame, and 3 and 4 for the second while 9 and 10 are for the bottom or fifth frame. The ninth bands are acted upon by each of the odd needles, and the tenth by each of the even needles. Therefore, the front bands must all be moved, or remain stationary together, in order to effect an opposite position in the corresponding back two bands. It will be seen how this reduces card stamping choices to four cutting positions only for five selections.

The bands are now guided through board 1, and down to the bottom lifting comberboard J. Here again above the holes of this comberboard—at low position—knots are tied in the cords. These knots insure that all pile ends other than those tufting, are lifted to a half-way point. Beneath the comberboard are the pile thread eyes, which are weighted by the lingoes at the bottom. The bottom comberboard, then, is concerned with lifting dead yarn to the half-way position under the pile wire and over the filling, and so travels half the distance covered by the top comberboard, which controls yarn actually tufting.

Card Cutting. There are eight rows in the card, and the odd positions in each cross line of eight represent the odd ends as read from the design, the even positions being used for the even ends. For a 256-pitch machine, the card would contain eight rows of 64 positions, for making 128 tufts in a five-frame weave.

There are two cards for each ¾ machine. Sometimes the left-hand card is punched for 63 holes and the right-hand for 65, with the idea of making it easy to place the two sets of cards correctly on the machine.

In *Figure* 7 a portion of a card is shown, with design and gamut. The first row is cut for the first two tufts in design, reading from left to right.

Wire-Type Jacquards. The widely-known upright wires and needles machine has become more in evidence in modern developments of the Wilton Jacquard. Pile tufting is arranged for by a top lifting griffe, and there is a bottom lifting comberboard as in the case of the cordage machine for raising the dead yarn. John T. Hardaker Ltd. has lately discontinued this movement of the comberboard, however, and substituted a lifting bottom grate in the Jacquard. Its movement is limited to about half the distance traveled by the top griffe.

This machine is very effective, and like all wire Jacquards is

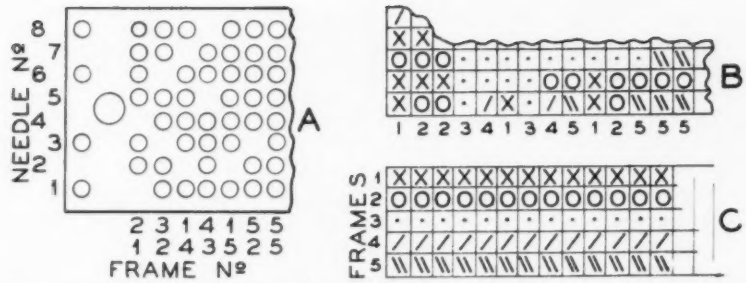


Figure 7. A—Portion of 5-frame card. Each row of eight across card represents two tufts, one for odd numbers and one for even numbers. This corresponds to bottom line of design B. B—Design portion, reading bottom line left to right. Numbers of frames obtained from gamut. C—Gamut of frames.

simple to run so long as obvious maintenance rules are observed. Timing of the main driving cam and card cylinder press, and setting of rods and levers, must be exact.

There is of course a certain amount of difficulty in removing bent or faulty uprights and needles, a type of trouble not encountered in the cordage machine. But good maintenance reduces this to negligible proportions. Hardaker's reversing box on their latest model is of positive use in carpet reversing patterns, and an apt weaver, keeping a sharp eye on his cards, may quickly alter the direction of his cards without losing a shot.

Face-to-Face Wilton Jacquards. The Dracup double Jacquard has been described in part in earlier issues of TEXTILE INDUSTRIES*, so a recapitulation only will be given here, with mention of a new harness tie-up. (If I might here offer a quick single conclusion on face-to-face Jacquard weaving, it is this —The greatest need is for controllable pile let-off. Cheeses which are very big, or under undue tension due to other causes, will tend to pull the carpets together, and the answer is not in heavier lingoes, or disposition of ground warps, and so on.)

When the two shuttles move together they form A, the top shot for one carpet, and B, the back shot for the other. That is, one-half of the Jacquard is always tufting while the other half is sinking its pile yarn into the carpet base. The front half of the machine governs movement of the top carpet yarn, and so drops the tufting warp—by means of a bottom moving board—the full distance from one carpet to the other. At the same time, the dead yarn of the top carpet is lowered—by means of the griffe—to the point midway between.

The back half of the Jacquard insures full lift of tufting yarn from the bottom carpet to the top—by means of the griffe—so making pile for the bottom carpet. Dead yarn here is raised by the moving board to the midway position. The hooks of the front half face to the front, and those of the rear half to the back, and are positioned by the griffe and steady grates. They are double to act as spring return when the cylinder is not on press.

The separate drives come from levers fulcrumed at the back and the front of the loom, and act from the extremities and the half-way points. The extreme leverage of the front lever works on the griffe to give a maximum tufting lift for the back Jacquard and the bottom carpet, whereas the half-way leverage, acting on the bottom moving board, handles the dead yarn. Conversely, extreme leverage of the back lever allows the moving board of the front Jacquard to drop its tufting yarn the full distance, while its half-way leverage results in its griffe lowering the dead yarn to the midpoint.

Card presentation is made at both the bottom and the top positions of the griffes. At the bottom point it pushes *on* those hooks required for tufting the bottom carpet, and at the top it pushes *off* the hooks which are to be dropped the full distance of the descending bottom board.

Figure 8 illustrates a harness tie-up, and shows how the pile yarn is spread so that distribution of dead yarn is even between the two carpets. In the odd dents of the reed there are two ends from the front Jacquard, and three from the back, and in the even dents three ends from the front and two from the back. *Figure 9* shows a portion of a card, which is cut in 15 rows to correspond with the 15 operative needles—three tufts across the card.

Gripper Axminster. The action of this machine is very simple and has little stress. It does not make a

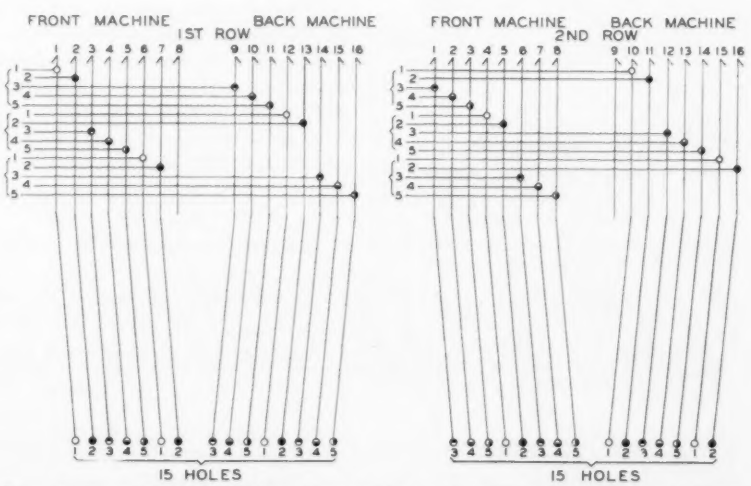

FRONT MACHINE
BACK MACHINE
1ST ROW
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
15 HOLES
FRONT MACHINE
BACK MACHINE
2ND ROW
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
15 HOLES

Figure 8. Tie-up for double Wilton Jacquard, 15-row, 5-frame. From left-hand side facing needleboard, cards at front.

*November, 1957, pages 125-128; November, 1958, pages 138-139, 141, 143.

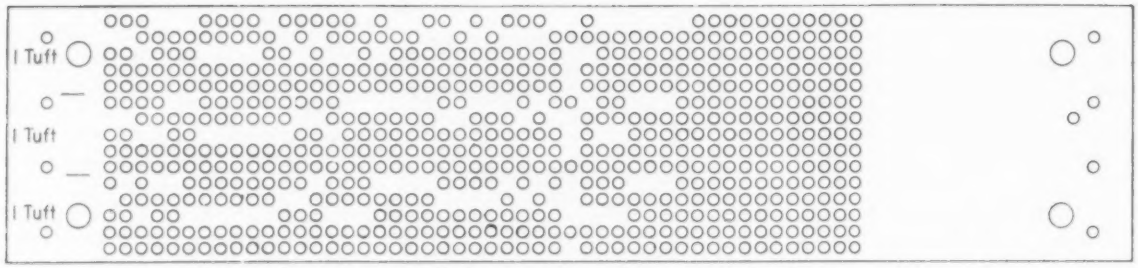


Figure 9. 15-row card for double-face Jacquard; three series of tufts for 5-frame weave.

warp shed, but arranges the required colors for tufting in a line, at the completion of the arc made by the rising row of grippers. The grippers take hold of the ends and withdraw them to the length of a tuft. These are then cut, and the tufts are placed by the returning grippers in the carpet below. Up to 16 frames of cheeses or bobbins used—the most common being 8. An end from each frame is threaded through a "carrier"—see *Figure 10*—and it is the function of the Jacquard to lift this carrier so as to present the desired color.

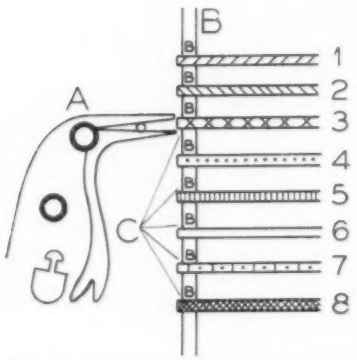


Figure 10. Gripper yarn carrier for 8 frames.

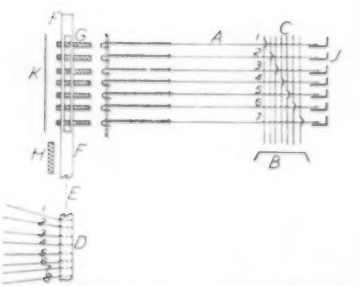


Figure 11. Gripper Axminster, eight frames.

An effective type is shown in *Figure 11*. This tends to be used more and more, particularly in the latest Hardaker 16-frame, because it requires the minimum cutting of card or roll, and strain is so small that paper rolls can be used. The unit is a 2/4 machine, for weaving six tufts per inch, there being seven rows of 108 needles. The top frame is normally at the gripper level when the other colors are not lifting, and so does not require action by the Jacquard. The yarn carriers stretch across the loom width and are connected by wires to the lifters, which are on a level with the Jacquard needles.

Following the process in *Figure 11*, it will be seen how the lifters F are controlled by horizontal needles A, which are themselves at the dictate of upright needles C, coming from a card cylinder B underneath the Jacquard.

Power is supplied by grid plates J moving in horizontally from right to left. Blanks in the cards or paper lift the respective needles over their grid plates, but holes allow the grids to move lifting pegs G through lifters F. All pegs now protruding through F are in the line of a vertically moving lifting bar H, and are raised, together with the corresponding yarn carriers below, so that the yarn ends reach gripper level. When the grippers are tufting, board K pushes back all lifting pegs so that the process is ready to start all over again.

Some types of Jacquards have a card cylinder at the front of the machine, and have a more direct action on the horizontal needles, but this makes for excessive card cutting, and consequent weakness.

Float Jacquard. Here comes the most original and revolutionary section of this article, and one likely to cause consternation in the hearts of the carpet designer! For up-to-now his function has been solely that of presentation of color in homogeneous forms. There has been no method hitherto of varying

Figure 13. Double-hook principle for lift on each pick. Top griffe for raised pile on back shots; lower griffe for floats on face shots.

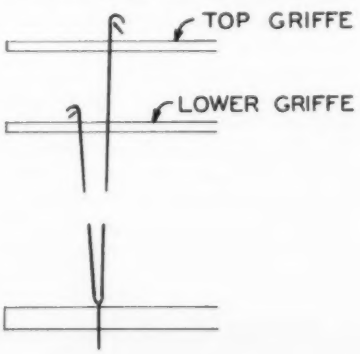
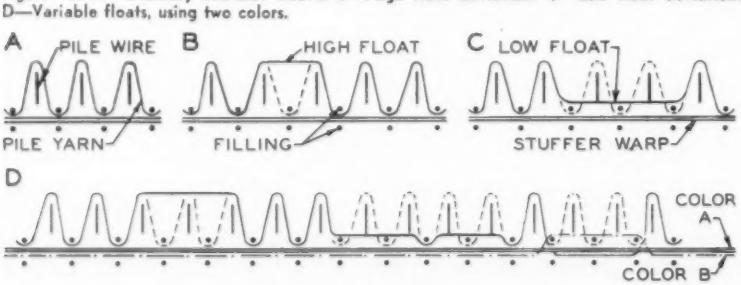


Figure 12. A—Ordinary two-shot weave. B—High float deviation. C—Low float deviation. D—Variable floats, using two colors.



structure, of introducing other than a plain one-shot lift.

Dracup's new float Jacquard is a straightforward development of the double-shed principle, and requires a lift for each shot. This enables it to handle yarn which is not intended to be caught under the top shot, as shown in *Figure 12*. By this means, when a tufting thread has been lifted, it can be "floated" as long as necessary. If it is desired to float for a long spell, it can occasionally be caught under a shot of filling and then continue to float. It can be floated at the high level over the wire, and at the low level under the wire.

A series of ends could be floated over the base foundation of the carpet in twill or sateen derivative form, and the combination of these with conventional pile effects can be imagined. Special "sunken" motifs in metallic and textured yarns give fascinating results which will startle people in the trade, and the potentialities of design are limitless. The great saving in pile yarn is obvious.

This Jacquard principle which could easily be adapted to any center-shed double-griffe model, acts on a twin needle as shown in *Figure 13*, the top hook for the tufting pile—on back shots—and the lower hook for the floats on face shots. A moving bottom comberboard is necessary for the raising of the dead yarn.

What holds progress back in this sphere is lack of a new designing technique. Designing difficulties become obvious when attempts are made to put ideas on paper. Each square of the paper must now represent a face and a back shot (in a two-shot weave)—i.e., it must indicate when a color comes up and whether it stays up to float or sinks back into the cloth. Alternatively, there must be two rows of squares for each lifting tuft.

But the advantages to be gained when these problems are overcome, must cry out loud to the artistic the imaginative, and enterprising.

Taslan yarn *(from page 89)*

Early commercial applications of Taslan took advantage of the new styling possibilities, better opacity or greater bulk for women's blouses and dress goods. The improved frictional properties were utilized to eliminate the slipperiness of fabrics used in infants' pram bags and snow suits, while the greater affinity for water repellents led to the utilization of these yarns in windbreaker jackets, rainwear, and hunting and ski clothing.

In the foreign market, European textile manufacturers have applied the unique properties of Taslan yarns to a broad range of men's shirting fabrics, neckties, underwear, raincoats, sportswear, and military applications such as tent cloth and snow wear.

The industrial field has taken advantage of the improved frictional properties and wax pick-up of Taslan to create a nylon inseaming thread for shoe manufacturing. Previously, nylon yarns were unsuccessful in this end use because the slippery filament yarns would not hold a stitch in leather and spun yarns were too expensive. It is now possible to utilize the strength, abrasion resistance, and resistance to degradation of nylon, and at a cost which is comparable to or lower than the natural fibers which were traditionally used. A similar problem, knot slippage, has been solved for fish net manufacturers with the use of Taslan. This concept has now spread to apparel sewing thread as well.

The ability to blend continuous filament fibers by texturing has led to a new fabric for men's shirts and women's blouses. The garments, recently introduced in retail stores, contain an intimate blend of Dacron polyester fiber and Cordura rayon yarn.

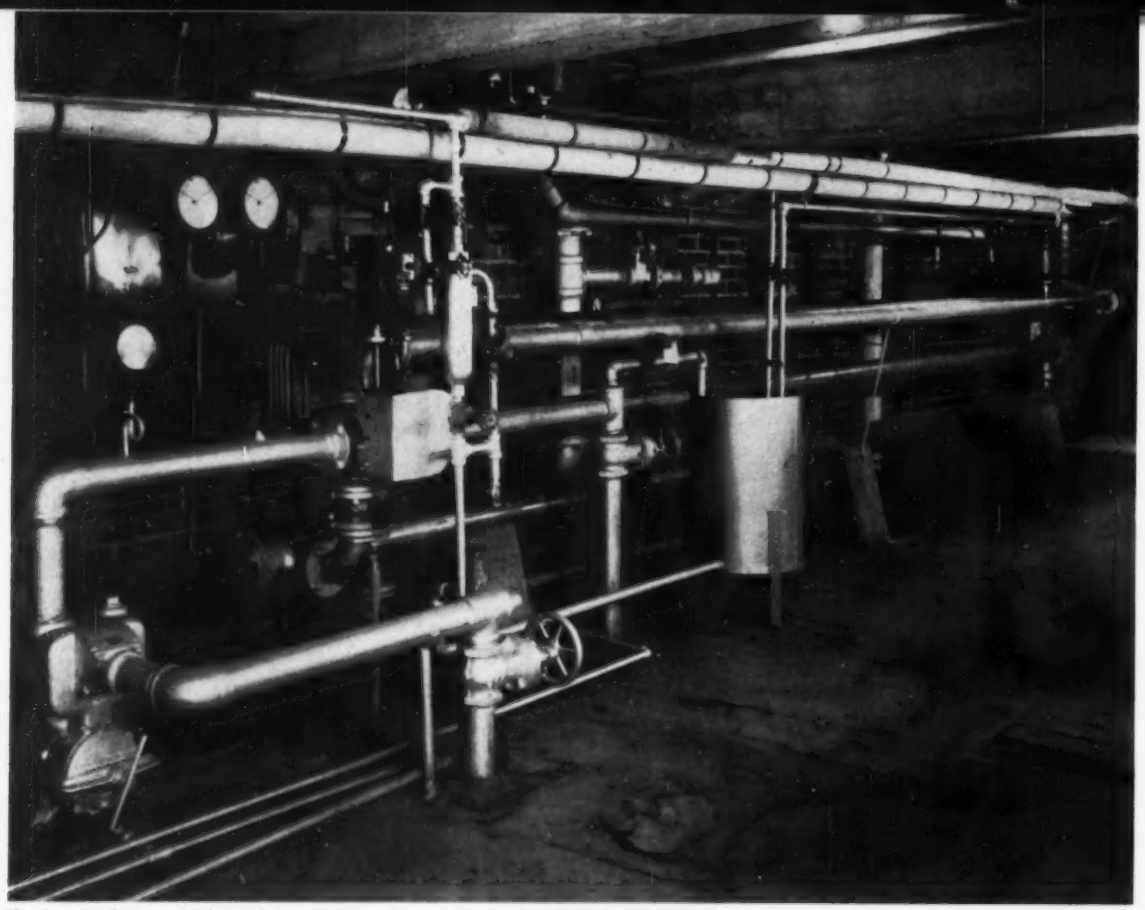
In the upholstery field, Taslan textured yarns have been utilized to create new styling with increased durability and improved surface characteristics. This is true of both home upholstery and transportation as well, where fabrics containing Taslan are being used in the Boeing 707 jet airliner and in at least one line of 1960 automobiles. In other home furnishings fields Taslan textured nylon, acetate, Dacron, and glass fibers are appearing in draperies, casements, curtains, and bed linens.

Paris couturiers have made conspicuous use of Taslan in dresses, coats, and evening wear. This new styling concept should have its first manifestations in the 1960 apparel market.

Most recently, the application of the technology of Taslan to spun yarns has created a new line of knitting and weaving yarns with increased bulk and a softer hand. Sweaters and socks containing these yarns have already begun to appear on the market.

Henry C. Froehling, director of the Merchandising Division of Du Pont's Textile Fibers Department, at a recent press conference on the new textured yarn technology, pointed out that the future growth rate for Taslan is expected to equal or better that of the whole field of textured yarns.

"We foresee a significant period of new design expressions in textiles, for with the technology behind Taslan, the variety of yarns that can be created is limited only by the imagination of the designer. He now has the means to satisfy both aesthetic and functional needs utilizing the attributes of a variety of fibers in a single blended yarn heretofore beyond the reach of the textile industry," Mr. Froehling stated.



The heat exchanger conducts the incoming well water over pipes carrying outgoing hot waste water, heats well water 40 to 60 degrees.

Every 5th fuel dollar saved

Recovering dye bath heat saves finisher 20% on fuel, 10% on process time

Staff prepared Exclusive

ABOUT TWO years ago, Minnette Mills, Grover, N. C., faced an overload problem on a 300-hp, coal-fired boiler. Due to quick changes in wet processing demands (production includes beam and package dyeing, and bleaching of cotton and synthetic bedspreads, chenille and upholstery fabrics, and mattress tickings), the boiler load remained erratic.

The standard procedure was to fill the vessels with cold water and then to heat the water with steam coils. It took about 30 minutes to raise the temperature from 60 F to the 180 F to 200 F needed for dyeing. A heat recovery system alleviated that peak load condition by preheating the incoming water with the waste water.

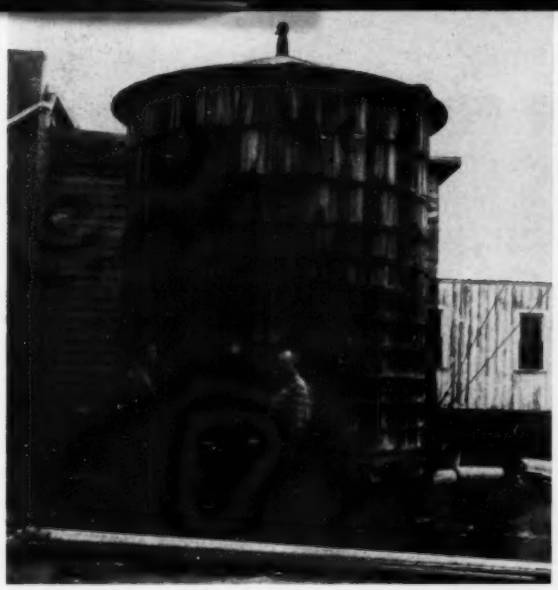
The recovered heat is equivalent to adding 65 boiler horsepower or about 2260 pounds of steam per hour in the winter when the incoming water is at the relatively low temperature of 40 F, approximately.

Based on an average annual temperature of 60 F, the recovered heat has a value of over $6000 per year at the initial design rate. The accomplished results are:

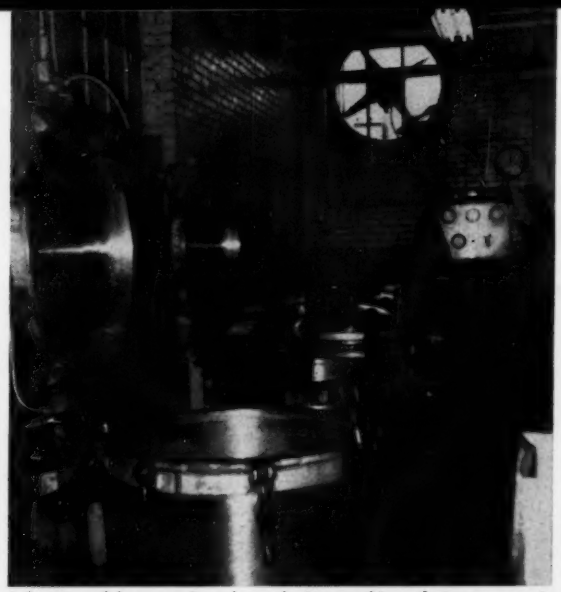
1. Reduced average boiler load
2. Elimination of the occasional severe peak loading or surging of the boiler
3. A 20 per cent increase in production capacity
4. A substantial labor saving from the decreased heating-up time and higher load turnover
5. Less fuel is used

Now, water is put into the vessels at 105 F—it has been heated with the waste water from 60 F—and a booster heater raises the temperature to the needed 180 F to 200 F. This saves at least 10 per cent of the former processing time.

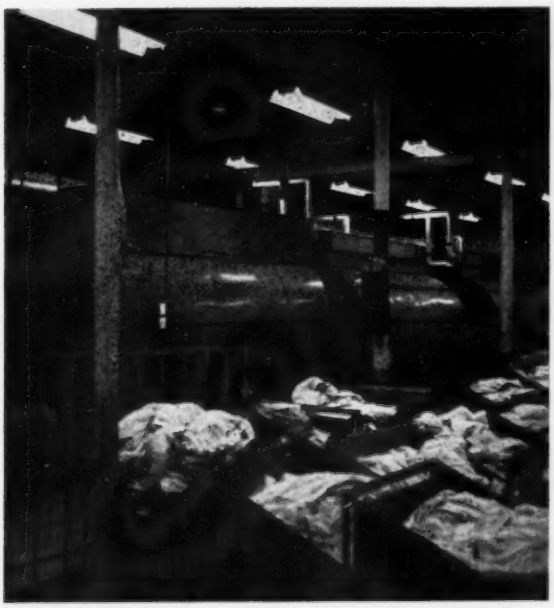
As most of the colors used are direct and have short dyeing cycles (2½ to 3 hr), most of the processing time saved is with



B. H. Harry, left, and Minnette President C. Franklin Harry at the 10,000-gallon tank where hot waste water is stored until needed.



A battery of beam and package dyeing machines that now operate on water preheated by the very liquor they used in previous dyeings.



Heat recovery assured more constant steam supply to these dryers.

For 1½ years Ludell design postponed need for this 600-hp boiler.

these dyes.

Deep well water is used without filtration or special treatment being given it. And while there is considerable lint in the waste water, special pumps and a nonclog exchange unit take care of that condition. No disadvantages have been noted.

C. Franklin Harry, president of Minnette, said the cost of the heat recovery system has already been amortized on the basis of fuel savings alone; the installation delayed buying a new boiler for 18 months.

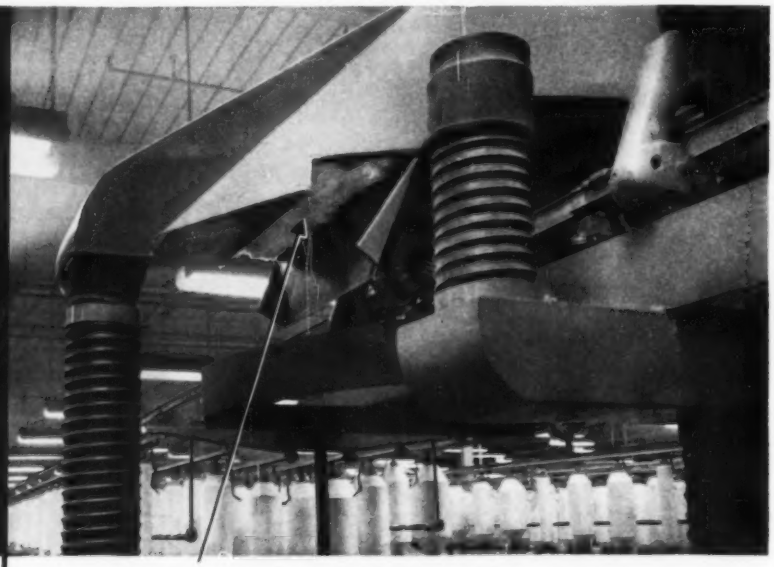
A new 600-hp boiler has been installed to take care of plant expansion and production increases. The gas-fired unit can be switched quickly to oil if the need arises.

The heat exchanger sections, on both the shell and tube sides, were constructed of Type 304 stainless steel. At the designed rate, the heat recovery system is guaranteed to raise 3750 gph of fresh water from 40 F to 110 F when 7500 gph of waste water pass through at an average temperature of 120 F. This system was guaranteed not to stop up or require manual cleaning.

Although the present load is much in excess of the design conditions, the heat recovery system is now recovering maximum Btu from the plant's waste water. The sectional design is expansible to match future growth conditions. As the plant volume continues to increase, Minnette Mills has an option of adding heat exchanger sections to the system to further increase its capacity.

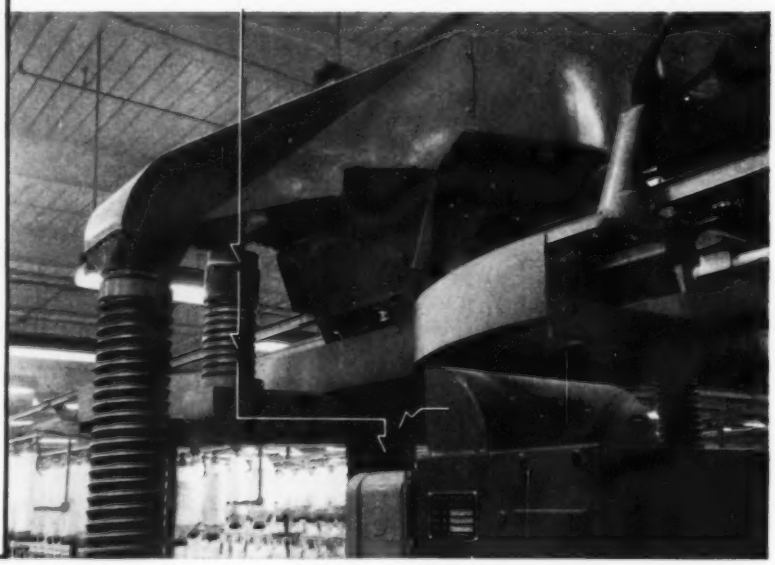
LINT DISAPPEARS

with Traveling Vacuum Cleaner



Door opens automatically exposing collected lint on screen as traveling unit approaches stationary vacuum cleanout box.

Stationary vacuum nozzle strips traveling vacuum screen clean as unit passes over. Door then closes and unit goes back to work keeping frames and floor continuously clean.



LOW COST!

. . . one "vac" cleans up to 30 frames automatically!

Your machinery stays cleaner . . . your yarn turns out better . . . your mill's working conditions are immediately improved.

Every American Monorail Cleaner is engineered to do a specific job efficiently, safely, and with minimum maintenance. Initial cost is low for the amount of cleaning accomplished. Check with American Monorail for any type of automatic cleaning.

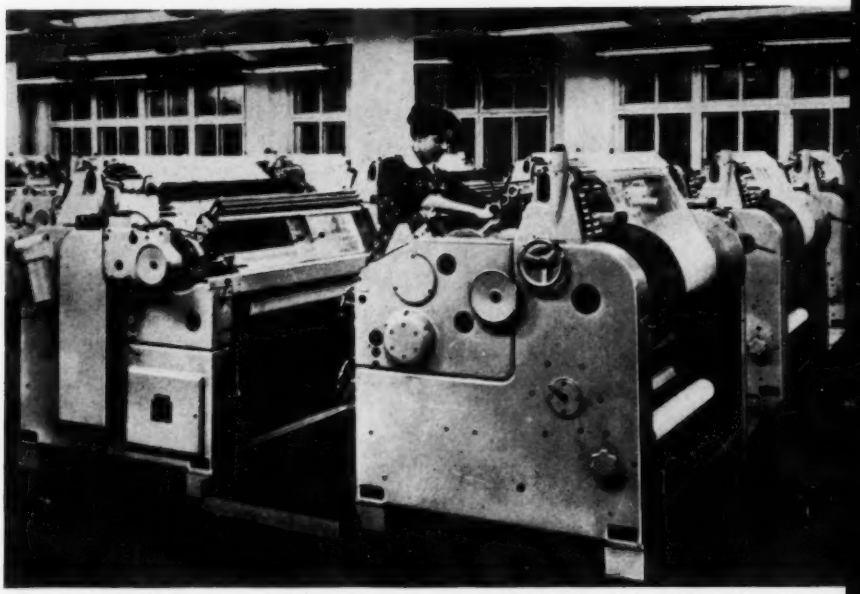
AMERICAN MONORAIL

Engineered Automatic Cleaning and Handling Systems

1106 EAST 200th STREET CLEVELAND 17, OHIO

MEMBER OF AMERICAN TEXTILE MACHINERY ASSOCIATION

And now a water-jet loom



Water-jet looms in operation at Kolora Corp., Semily, Czechoslovakia. Note position of warp beam and cloth roll at rear of loom. Sliding plastic panels are seen on loom at left.

Jet of water carries filling through the shed in a loom now in commercial production at a mill in Czechoslovakia

by P. Abbenheim
Exclusive

INTERCHANGES between technicians from both sides of the Iron Curtain are today taking place with growing frequency, and at each stage more light is shed on work which has hitherto been shrouded in a mist of secrecy.

Towards the end of last year, in Prague, Czechoslovakia, there was an international conference on shuttleless loom weaving. It was evident why the Czechs should hold such a conference, for they have developed two interesting shuttleless looms of their own and they were able to discuss these in the light of developments made in the West and also to compare the relative merits of their own machines, one against the other.

The two Czech looms are jet looms, inserting the filling yarn with a jet of fluid. One uses air across a narrow width and at very high speeds; and the other, which seems to be winning out, uses a jet of water. In the Eastern European countries there is a tendency towards national specializations. East Germany, for instance, is concentrating on textile machinery in general, with some emphasis on synthetic fiber producing plants; while the Hungarians are working furiously to evolve testing instruments for textiles. This is part of a plan for integrated specialization between the socialist countries. The Czechs, who are famed for their precision engineering, have understandably been concentrating on precision weaving machinery in the form of the Svaty pneumatic loom and the hydraulic loom which appears to stem largely from the pneumatic.

The chief of the first hydraulic loom factory at Semily, Havlicek Miloslav, announced that they were working with 150 looms at present, but when the mill is fully equipped they will be running 212, this being an ideal figure in theory. Working two shifts on a fabric with 110 picks per in., this mill would then produce 3,560,000 yd of cloth per year. Most of this would be of the fine-filament type made from hydrophobic fibers.

Previously the Czechs had favored the Benninger loom for weaving filament synthetics, but they are now making intensive efforts to substitute this with the hydraulic loom which they claim will give far more effective production with substantial economies.

PILOT PLANT WORK with the looms has justified this theoretical reasoning. The hydraulic loom is compared with the Benninger (hereafter called the traditional loom) weaving the Czechoslovakian polyamide (nylon) fiber Silon:

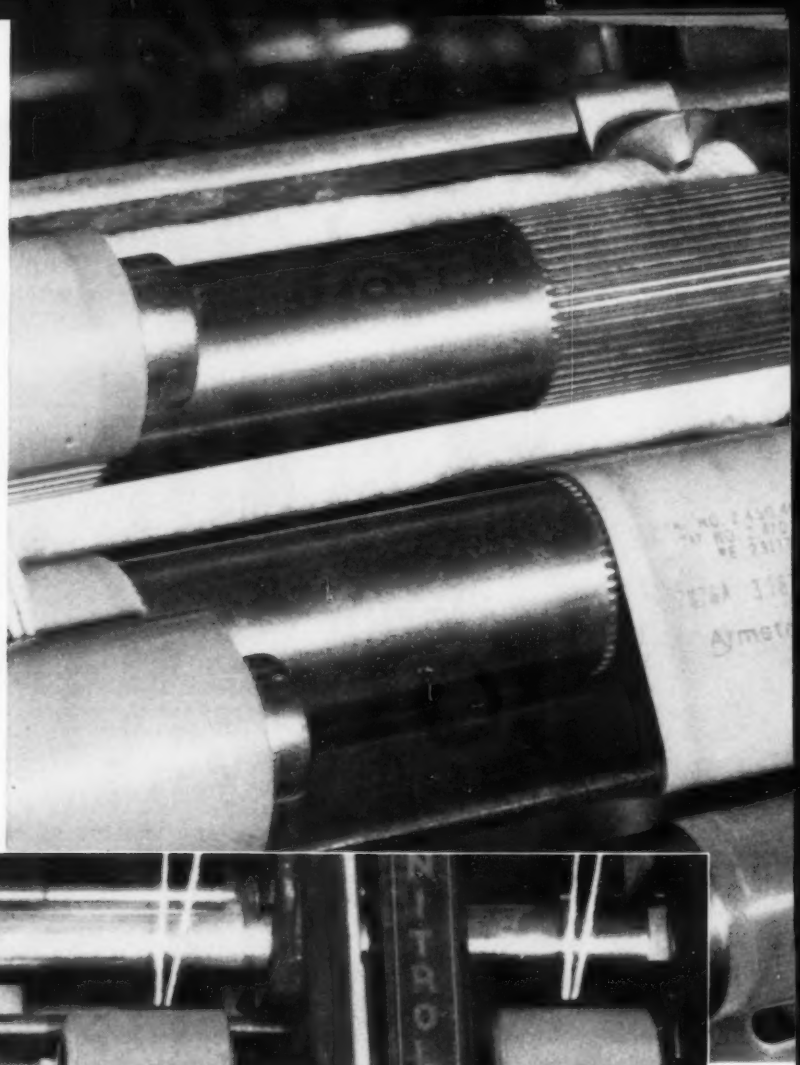
	Hydraulic	Traditional
Reed space	41.3"	47.2"
Avg speed	350 ppm	156 ppm
Efficiency	80.7%	78.8%
Floor space	24.7 sq ft	63.5 sq ft
Looms	212	496

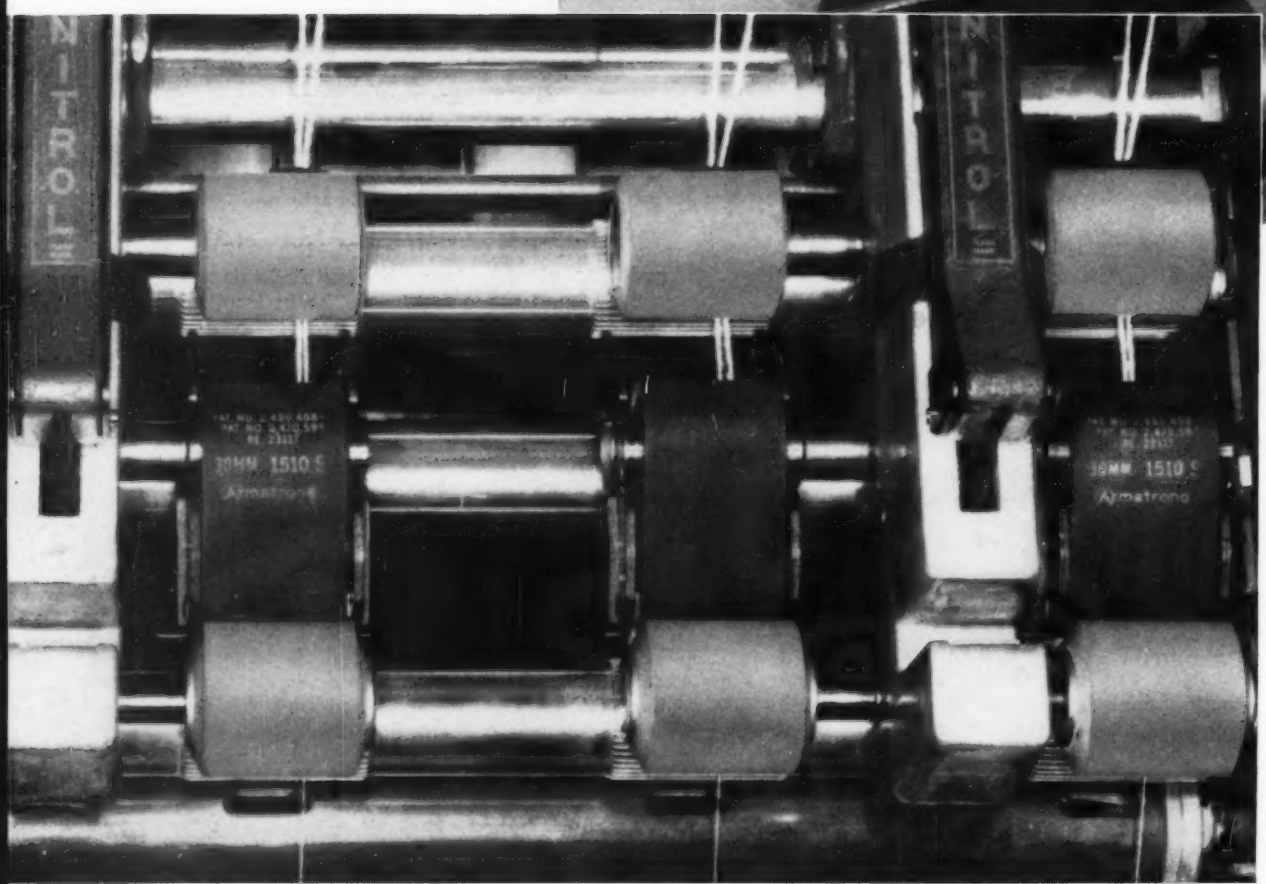
In each case, annual production on two shifts (4,000 hours) is 3,560,000 sq yd. Based on these figures, the effective saving was said to be:

184 traditional looms
270 filling winder spindles
41,361 sq ft of floor space

Although plenty of figures in Czechoslovakian currency were quoted for the financial savings effected, the percentages are of most immediate interest. These

For long-apron systems, Armstrong Accotex NO-7876 is recommended. Two special rubber compounds give it super-flexibility, superior fiber-handling characteristics, and unusual resistance to flex cracking and ozone.





For close-pin double-apron systems, use Accotex NO-7075. This black-and-white apron pioneered the two-compound principle in aprons. Special synthetic rubber compounds give it smooth drafting properties and good resistance to abrasion.

Spin top-quality yarn on any high-draft frame with Armstrong Accotex Aprons

For best performance on any high-draft frame, your spinning aprons should have correct friction . . . optimum flexibility . . . dimensional stability . . . and resistance to abrasion and cracking.

You get all these qualities when Armstrong Accotex Aprons are running on your frames. These aprons help you get high production and high quality . . . shift after shift . . . on any drafting system, with any fiber or blend.

The special synthetic rubber compounds used in Accotex Aprons are one big reason for this performance. These rubbers . . . different for each apron surface . . . have the right friction characteristics for smooth drafting, and they have built-in resistance to abrasion and cracking.

Another reason is the patented construction of Accotex Aprons. A strong cord interliner maintains dimensional stability and helps to provide the flexibility needed for good performance.

If you're not already using Accotex Aprons, ask your Armstrong representative to arrange for a test next time he calls. Or write for more information to Armstrong Cork Company, Industrial Division, 6403 Ivy Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

1860–1960 Beginning our second century of progress

TOUGH YARNS FOR TOUGH JOBS...

Capt. Thomas Latta, American Airlines Jet Powered Electra

...SEAT BELTS, for example

The latest jet airliner, the family car, or the cab of a heavy-duty tractor . . . where comfort and safety are prime considerations . . . you'll find seat belts of Caprolan nylon heavy yarns on the job—*doing* the job. In fact, about 80% of all nylon and nylon combination seat belt webbings made today are made of these new yarns.

Caprolan heavy yarns are a completely new class of exceptionally durable textile materials developed by Allied Chemical. Their excellent dyeability (1½-minute cycles) has made these yarns ideally suited to areas where superior color performance is required—seat belts and upholstery to complement today's high-styled automobile and airplane interiors, carpeting, home furnishings fabrics, and industrial color coding, to name a few.

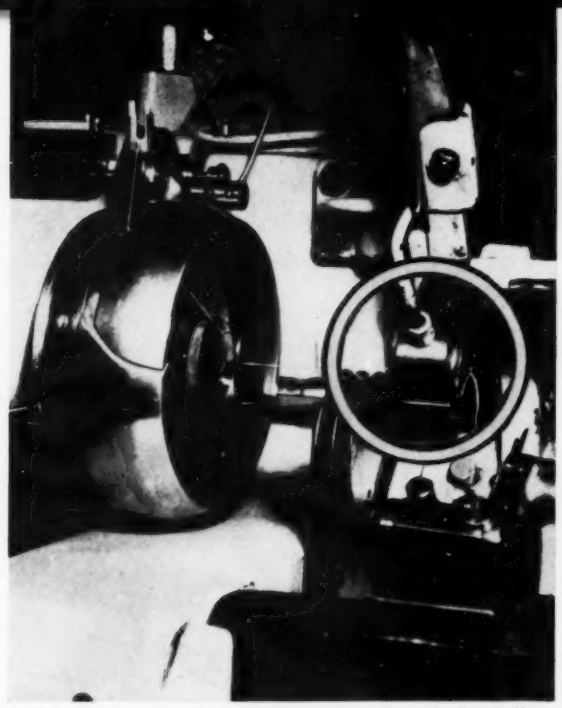
In addition, Caprolan heavy yarns are now included in U.S. Navy specifications for marine rope and are enjoying increasing use in fire hose, conveyor belts, load stabilizers, industrial fabrics, and dozens of other end-uses where toughness, strength and flexibility are essential.

If you have a tough job, we have the tough yarn for it. If you wish to improve an existing product, or create a new one, our technical service, end-use development and fiber application staffs are ready to help you.

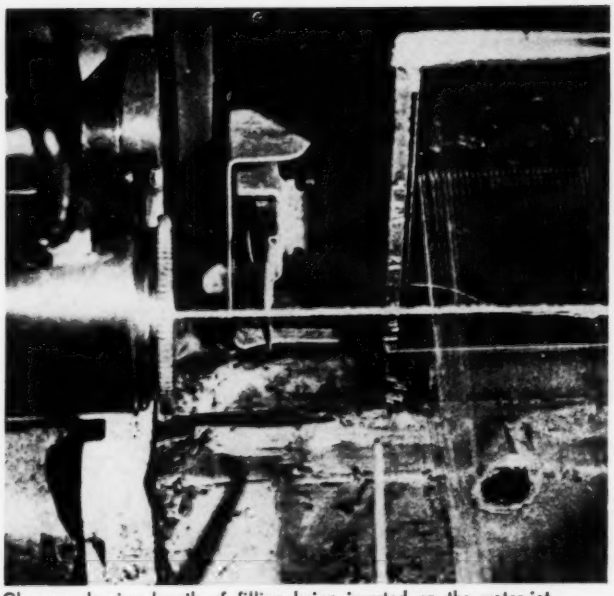
Allied Chemical

caprolan®

Fiber Marketing Dept., 261 Madison Ave., New York 16, N.Y. THE NYLON FIBER BY ALLIED CHEMICAL



Tension device (top left), measuring drum, and nozzle (circled) on water-jet loom. End hanging from the nozzle is ready for next pick.



Close-up showing length of filling being inserted on the water-jet loom. Filling cutter can be seen between nozzle and shed opening.

were as follows:

Investment saving—40.1%

Machine erection saving—32.2%

Difference in building costs—84.2%

Electric power consumption is less for the jet than for the traditional loom, while the labor requirements are also lowered. The water loom, though, does require a supply of clean water and on a two-shift day the water consumption is 7.2 gal (about ½ cc per pick).

Two extra factors favor the new machines: Synthetic fibers never suffer from static troubles because of the water, and there is a big reduction in noise in the weave shed equipped with them. Mr. Miloslav expects a cut in loom prices of 30% when bulk production gets moving and certain modifications have been made.

THE TENOR of the whole congress implied that while they had found the pneumatic loom very good for weaving certain fabrics —although very narrow—at high speeds, this machine was very limited in development potential, while the use of water as a filling

Operation of the Hydraulic Loom

■ THE MOST UNUSUAL feature of this loom is, of course, the method of filling insertion. Filling supply is from a cone at the left-hand side of the loom. The filling thread goes through a tensioning device (see photo) to a measuring drum, the size and speed of which are such that enough yarn for one pick is unwound at each revolution of the crankshaft. The drum revolves at a constant speed, so that speed of unwinding from the package is also constant.

After leaving the drum, the yarn goes through a filling stop motion, then into a small nozzle, from which it hangs slack. Next, a powerful jet of water (about ½ cc in volume) is forced from the nozzle by a pump timed with the loom cycle. The jet of water takes the yarn from the measuring drum and carries it through the shed.

The pick is then beaten up and cut near the nozzle (see photo), leaving the slack end sticking out ready for the next pick. Selvages are formed by a leno motion.

There are two sliding panels of plastic in front of the shed (see photo). Picks may be inserted individually by an auxiliary foot-operated pump.

Most of the water used rolls down the fabric to a tray under the take-up roll, from where it is drained to the sewer. Presumably the water could be recirculated if desired.

The conventional-size warp beam is mounted high on the loom, as can be seen in an accompanying photo. The warp comes down to the front of the loom at a steep angle, and the harnesses are at right angles to the warp. The cloth roll is at the back of the loom, under the warp beam.

The advantages of the loom, explained in more detail in the accompanying article, are low power required for operation, high speed, and small space requirements, as compared to conventional looms.

Disadvantages are necessity for a water supply at the loom and disposal of water used in picking; and unsuitability for sized warps, or at least those sized with the usual compounds. In common with pneumatic looms, the water-jet loom can not carry a pick through the shed if there is the smallest obstruction. There is also no righthand filling stop motion, so if a pick fails to clear the shed, the loom continues to operate.

PROVEN SUPERIOR

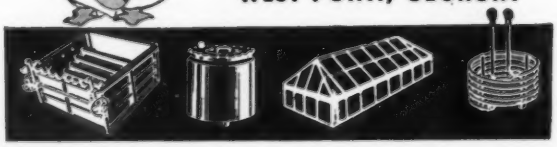
In actual day to day operation where the real worth of machinery is tested, Sims new Stainless Steel 75 psi reversed dished head 44 Dry Cans* are proven superior. They require less horsepower . . . are easier on bearings . . . and save floor space with no loss in drying surface. And the chain drive is on one side of the can, while the steam fittings are on the other side . . . permitting maintenance of the drive without time lost waiting for steam pipes to cool.
Furnished Teflon-coated if desired.

FOR ECONOMY AND QUALITY. Our modern and progressive metal-working shops, our skilled craftsmen, our know how—these are guarantees of quality. For custom tailoring of stainless steel, call, wire, or write *now*.

*U.S. PAT. OFF. NO. 2779104

Fabricated and installed at Lanett Bleachery and Dye Works, Lanett, Alabama by Sims Metal Works.

Sims
METAL WORKS
WEST POINT, GEORGIA



Harley D. Hohm, Inc., 128 Buist Ave., Greenville, S. C.

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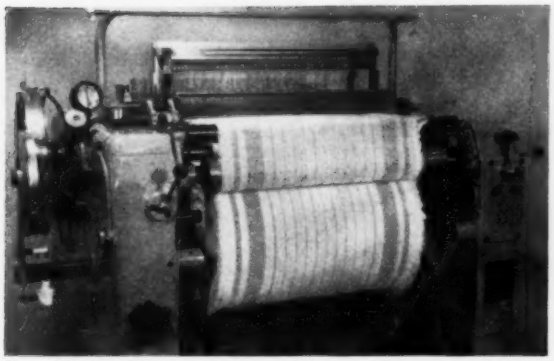
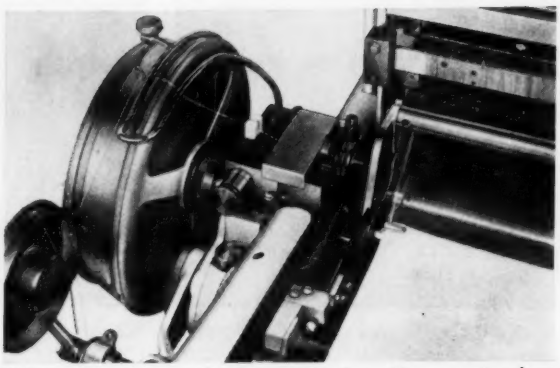
FABRICATORS SINCE 1928



One of the Czech pneumatic looms. Selvage fringes produced by this type of loom can be clearly seen. At the Prague conference, the inventor expressed a preference for the water-jet over this type.



Picking mechanism on a Czech pneumatic loom. The measuring drum at the left measures off required length of yarn for one pick, which is then blown by air jet through shed under virtually no tension.

carrying medium was much more interesting and more easily exploited.

On the hydraulic looms, filament and staple-fiber cloths from synthetics have been woven, from plain or hopsack weaves to 2/2 and 3/1 twills and 4-harness crepes. Trials have now been carried out with 8-harness weaves. Constructions from as coarse as 25 x 25 to as fine as 358 x 240 have been woven, but commercial production at present is restricted to the following limits:

	Construction	Denier	
		Warp	Filling
Lightweight	191 x 191	15	15
Mediumweight	315 x 94	20	40
Heavyweight	122 x 117	40	120/2

Everything from lingerie to coats and technical fabrics is made in these ranges.

Comparing two sets of looms weaving a dress cloth 36 in. wide of 44/44 denier warp, 40/40 denier filling of Silon filament, the jet loom gives an increase in productivity with fully skilled weavers of 100% compared with the traditional. It was admitted that even better results could be obtained in terms of production efficiencies when using imported polyamide yarns which have, generally speaking, less broken filaments and a better finish. When it is fully appreciated that this new loom uses a measured length of filling yarn which is blown by a jet of water through the shed, to leave a tiny fringe on each side of the fabric, the selvage being locked by leno action, it will at once be seen that there is an increase in consumption of filling yarn. But this in fact is only 1.2% greater than conventional looms. There is no waste on the filling bobbin; this method of insertion has been eliminated, weaving being from cone supply.

The leno selvage, they claim, will withstand pin or clip tentering and there is no danger of it pulling out.

It is admitted that the weaver operating the new looms needs to be not merely retrained, but also more skillful. He needs to be capable of handling precision machinery which is more sensitive to rough handling. This, they say, is not a serious disadvantage. The weavers running the new looms work under improved conditions in a much quieter shed, and a general feeling of importance is generated in the operatives who are entrusted with the new machines.

The warp and cloth beams are now positioned at the back of the machines so that two rows of looms, back-to-back, can be serviced by a trolley alley, while the weaver is able to walk up and down a soft floored alley of her own. This means that there are less tired feet. The positioning of the warp sheet is also arranged to make the operative's job easier. Asked if they would like to return to conventional looms, operatives in the mill all replied that they now prefer the jet looms.

THE BRAIN behind many of these developments is the Czech engineer Vladimir Svaty, whose first pneumatic loom carried his name, although it was later called the P.45. He also gave a paper at Prague on some problems of shuttleless loom weaving.

In considering a principle, he said, "It is very important for the loom maker to estimate [anticipate] the further development trends in the individual principle and thus to predetermine its life."

From the vast number of unconventional looms now being built in various countries it will be appreciated just how hard it is for a loom maker to do this, particularly in view of the widely differing conclusions evidently reached and acted upon.

He continued, "The life of a constructional principle is usually much longer than the life of the individual machine types and, from the point of view of the maker, it is naturally more economical to develop new machines on the same principle than to change over to new principles."

One of the limiting factors in loom speed advance, Mr. Svaty rightly observed, was not picking, but beat-up, and here he paid tribute to Sulzer Bros., who have managed to reduce by one half the length of beat-up on their machine, compared with traditional looms. The delicate balancing of the lay reduces the moment of inertia to less than one hundredth that of a traditional lay.

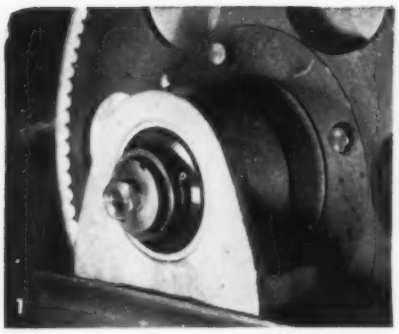
Picking speeds for various types of machines were given:

Shuttle loom—23-44 ft/sec.

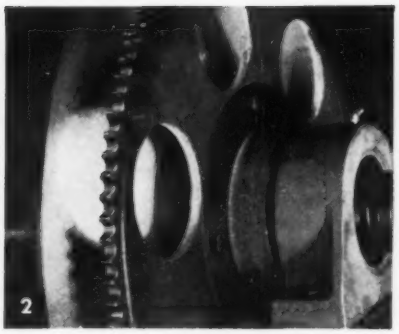
Carrier loom (Sulzer)—65.6-81.3 ft/sec.

Pneumatic loom (P.45) — 65.6-98.4 ft/sec.

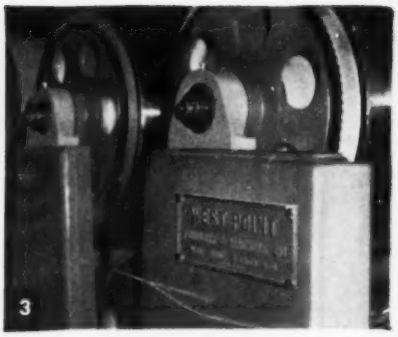
Hydraulic loom — 98.4-164 ft/sec. *Continued on page 121*



Largest cylinder journals and bearings: 2-11/16 inch self-aligning ball bearings are largest ever offered and with machined labyrinth-type grease seals assure you extra long service.

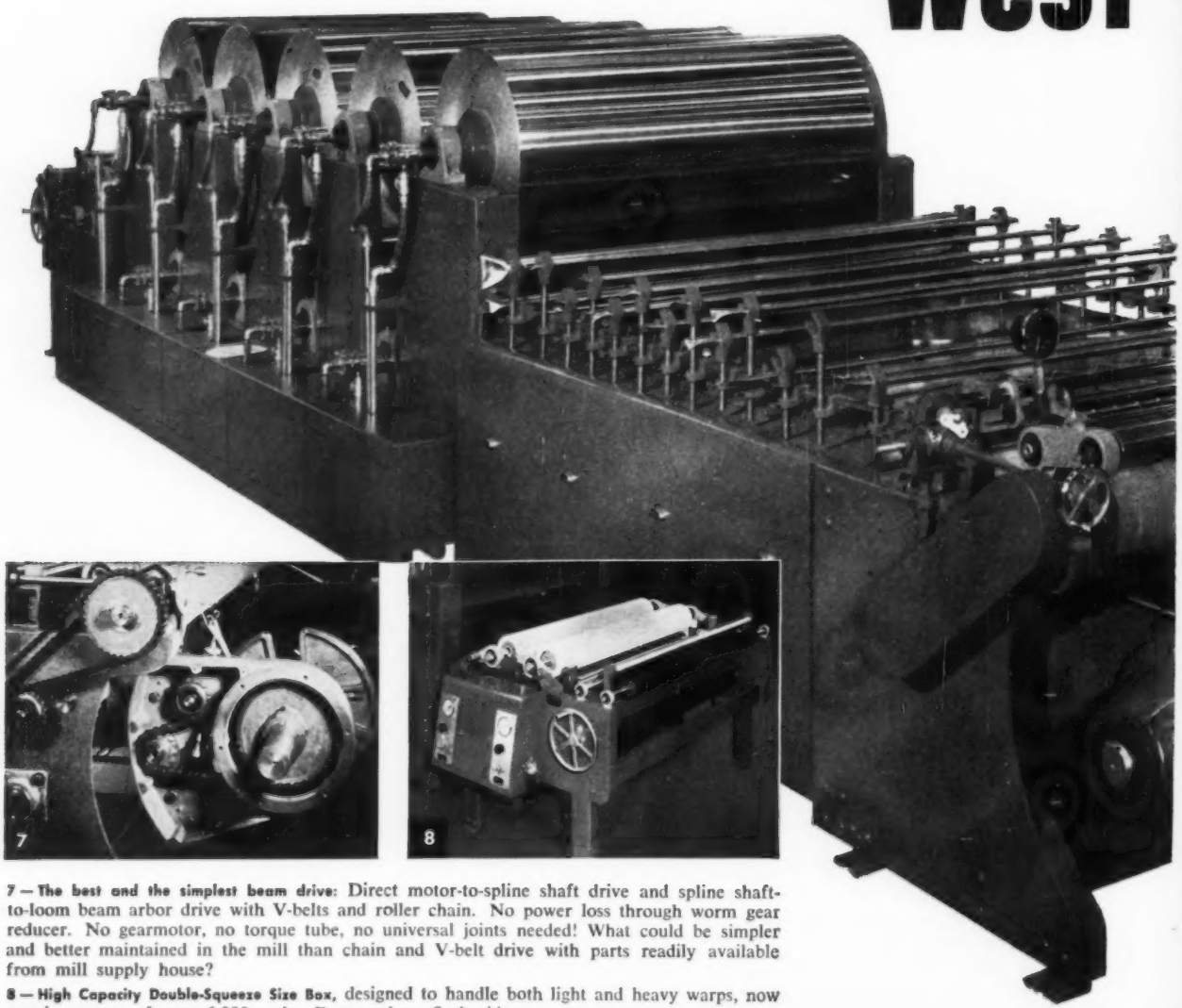


Largest sprockets: 25-inch 105-teeth sprockets mean more accurate control of cylinder surface speed and yarn tension, more efficient transmission of power, longer life.



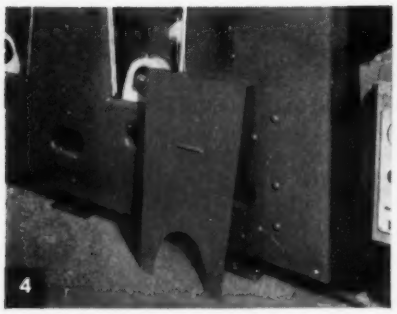
Heaviest frame built: 7" deep at the heaviest point, 4" deep at the lightest. New patent-pending "wide-open" design gives superior access to warp and cylmders.

Eight good reasons why **West**



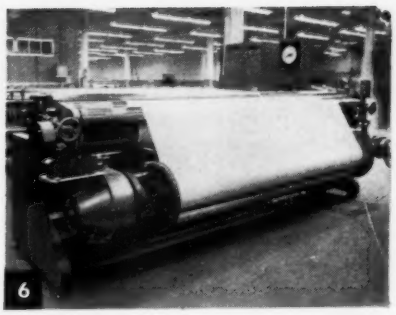
7 — The best and the simplest beam drive: Direct motor-to-spline shaft drive and spline shaft-to-loom beam arbor drive with V-belts and roller chain. No power loss through worm gear reducer. No gearmotor, no torque tube, no universal joints needed! What could be simpler and better maintained in the mill than chain and V-belt drive with parts readily available from mill supply house?

8 — High Capacity Double-Squeeze Size Box, designed to handle both light and heavy warps, now running warps of over 6,000 ends. Easy-to-clean flush side.



Removable side panels guarding sprockets are lifted out for access to warp and cylinders. No bolts, screws, or nuts to remove, to tighten or to lose! Note smooth clean side.

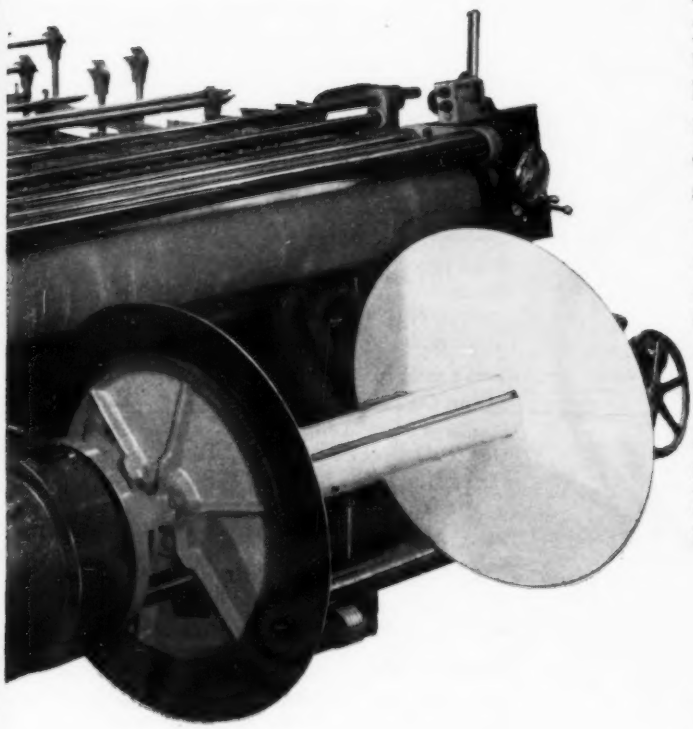
Steam and condensate manifolds are covered by a heavy metal guard for cleanliness and to protect operators from burns. Covers easy to lift off, yet strong enough to stand on.



Rugged high-speed head end can accommodate beams varying over 100 inches in width without projecting arbors (not limited to 50 inches).

Point SLASHERS

have outsold all others the last four years



IN ACTUAL SALES during the last four years West Point Foundry sold more slashers than all other U. S. A. manufacturers combined by an overwhelming margin. This is BUYING PREFERENCE expressed in hard-earned textile dollars which makes other manufacturers' claims sound empty.

WEST POINT'S PACESETTER is *not* the least expensive slasher built, but an overwhelming preference by buyers means it is the best value! This is only because of the exceptional quality features of the PACESETTER slasher.

Look at the superior quality features illustrated here; then contact your West Point Foundry representative for the complete story on the PACESETTER, the most outstanding slasher in the industry today.

WEST POINT
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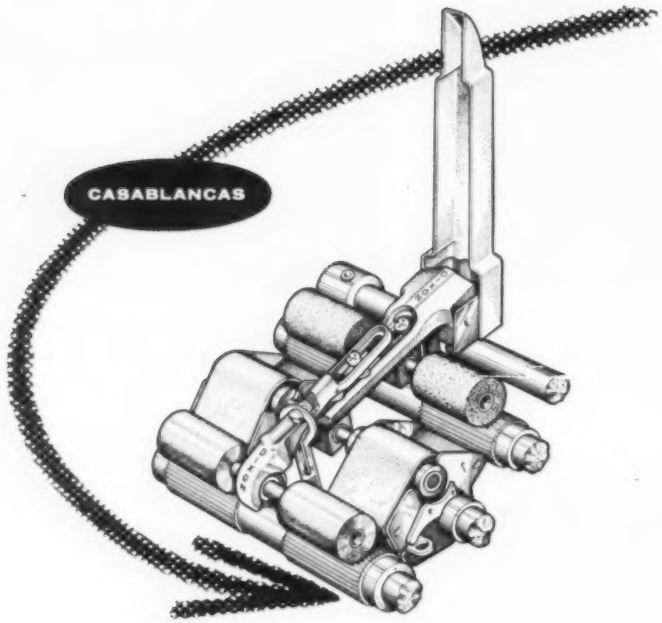
Company

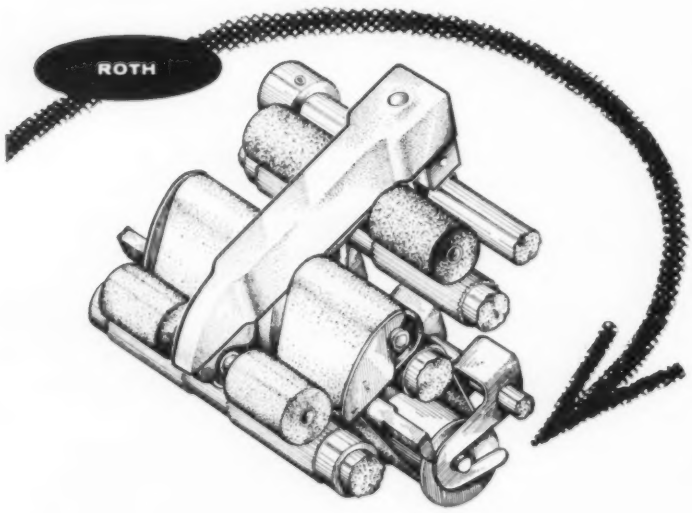
WEST POINT, GEORGIA



Only From Dixon!

ENGINEERED CHANGEOVER PLANS

for Both Spinning Systems



Dixon's multi-step changeovers for *both* Casablancas and Roth spinning systems are the product of over eighty years of specialized service to the textile industry. More than 2,000,000 spindles in leading mills* throughout the country attest to the dependability and high performance of Dixon-designed equipment.

If your spinning is outdated, a Dixon Engineered Changeover Plan is the most economical way to regain your competitive position in the industry. Dixon's broad product line and intimate knowledge of spinning technology make it possible for our engineers to recommend the system which will provide fastest pay-back in your mill . . . in terms of reduced cleaning, elimination of lubrication, fewer ends down, longer drafts, and better yarn uniformity. Furthermore, each Dixon Engineered Changeover Plan — whether Roth or Casablancas — can be installed in one or multiple low-cost steps. Mill profits improve RIGHT FROM THE FIRST STEP! When complete, the Dixon Plan provides the latest word in spinning efficiency:

- Middle and back rolls run on RULON® . . . the oil-free bearing that never is lubricated . . . outwears nylon 12 times.
- The Dixon patented self-aligning front roll rides on a hardened and ground, pre-lubed, sealed, precision ball bearing which is guaranteed for years and years and never requires lubrication.
- All parts are maintenance free. Pay-back on your investment is a matter of months.
- Productivity and quality improve. Yarn is cleaner . . . seconds decrease.

Want proof of performance? Ask our customers . . . also send for actual cost analysis of typical Dixon Changeover Plan which paid for itself in twenty-five months and is now saving $1.50 per spindle per year.

Dixon Corporation, Bristol, Rhode Island.
Southern Sales: Dunson & New, Inc., Box 9202 Greensboro, N. C.; Box 321 Greenville, S. C.; Box 445 West Point, Ga.

*To mention a few.

Mill	Spindles	System
Clifton Mfg. Co.	71,918	Double Apron Roth & Casablancas
Monroe Cotton Mills	18,756	Double Apron Casablancas
Columbus Mfg. Co.	17,000	Double Apron Roth
Crown Cotton Mills	15,232	Double Apron Roth & Casablancas
Deering Milliken	121,500	Double Apron Roth

Dixon

Engineered devices for weighting and guiding top rolls since 1876

Water-jet loom

(from page 117)

The most revealing figures, however, were those relating to the energy required for filling insertion by the various systems. These were given as follows:

Type Loom	Filling Weight* Grm	Kinetic Energy Kg
Shuttle	400	1-3.7
Carrier	40	0.81-1.3
Pneumatic	0.25-0.5	1.1-2.3
Hydraulic	0.25-1	0.02-0.18

*Including shuttle or carrier

It is at once obvious that although the pneumatic loom has the lowest weight of filling to carry across the shed, its power input is very much greater than that of the hydraulic loom, which is using a filling assembly of about twice the weight. This is due to the volatile nature of the filling insertion medium, which dispels in the surrounding atmosphere much more rapidly than a more dense medium such as water.

Mr. Svaty stated that although it was possible to master higher and yet higher filling insertion speeds the problems associated with the lay still needed solutions, and these had still not yet been solved in "a satisfactory way for speeds over 800 rpm [using the crank mechanism]."

After discussing weaving systems in general Mr. Svaty observed, "We find that the maximum picking reliability and control is guaranteed by the Sulzer system; and vice versa, the picking reliability and shed control on the jet loom is not always sufficient. The use of jet picking without filling length stop motion is therefore dependent on the cleanliness of the shed."

This was not meant to imply that they were switching to a carrier system (this is being tried on the Neumann loom in East Germany), but rather that they were concentrating on solving the attendant problems of inserting filling into cloth at high speeds and making all other loom mechanisms fit to this.

His concluding remarks perhaps best summarized the Czech attitude towards this interesting new machine. Mr. Svaty said: "The main application of jet looms with hydraulic picking lies in the field of man-made fibers. For this kind of fiber they have numerous advantages: higher output, simplicity, and even an easier adaptability to various fabric widths, as compared with present shuttle looms. The use of water has its disadvantages, but on the other hand it solves the problems of conditioning and static electricity.

"For these fibers, other systems are not suitable because the carrier picking would lead, on double fabric width, to considerable time losses (a great number of warp threads and, therefore, long twisting-in time), the gripping of the very thin filling threads being always not fully reliable. Neither is the air picking suitable for weaving continuous filament filling, because it causes separation of the filaments."

Just what an impact the hydraulic loom will have on the filament synthetic weaving is a matter for conjecture and the future.

Electricians may prevent your next fire!

More industrial fires start from electrical defects than from any other cause

■ SINCE LACK of ordinary maintenance is responsible for most of these fires, it follows that the kind of care and attention given to the equipment is an important factor in prevention.

Wiring. Most electrically caused fires are the result of defects in wiring. Not only does heat, cold, vibration, moisture, corrosion, oil, and abrasion take a toll, but the wiring is frequently severely abused mechanically and often over-loaded electrically. All these weaken the insulation in time, and the result is short circuit, arcing, and fire.

Where armored cable is not properly connected at boxes, metal edges may be exposed which with vibration wears through the insulation. The same thing happens where open wiring enters boxes without protective bushings. Extension cords continued in use long after the insulation has become dangerously worn are also a frequent fire cause.

Motors. Fires start in motors nearly as often as in wiring. Burnouts are caused by overloading, by using motors of a type not suited to the operating conditions, by too frequent starting or jogging, and by similar misuse. Dirt clogging the ventilating spaces makes motors run hot, causing insulation breakdown. These and other faults can start fire which will spread to oily surroundings or to other combustibles near by.

Circuit Breakers. Fires starting at circuit breakers are commonly caused by loose connections, loose parts, or pitted contacts. Arcing in air circuit breakers produces globules of molten metal which are thrown from the box if it is not tight or the cover not well secured. In oil circuit breakers, low or dirty oil can also result in arcing, ignition, and violent expulsion of the oil. In either case, fire in nearby combustibles may be expected to follow.

Lamps and Fixtures. Electric lamps in contact with combustibles, or breakage of lamps not properly guarded, have started many fires. The use of ordinary extension lamps near flammable liquids or in dusty or linty locations is particularly hazardous. Other sources of occasional trouble are the ballast units on fluorescent fixtures, which sometimes overheat and ignite combustible material in contact with them.

These are just a few of the many ways in which electrical equipment can break down, arc, and cause fire. In most cases the remedy is obvious.

Adequate Maintenance Is Answer. The National Electrical Code is the recognized authority for the installation of electrical equipment. Once properly installed, the equipment can be considered wholly safe only if it is kept in good condition by periodic inspections and adequate maintenance.

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YARMOR PINE OIL—LEADING WETTING AGENT FOR TEXTILES

The value of pine oil in wet-processing as a penetrant and wetting agent is long established. However, perhaps you're not acquainted with the particular advantages of Yarmor 302W, a Hercules pine oil made specifically for the textile industry. Yarmor reagent is not just "pine oil"; it is specially processed to produce an extra high-grade product with the greatest wetting, penetrating and emulsifying ability. That's why so many people in the textile industry never just say "pine oil." They say Yarmor®.

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Textile research achievements in 1959

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

Part 3 — Conclusion*

WET PROCESSING

A report published last January described the development of a special nylon yarn lubricant which resulted in reducing the scouring time for lace made of such treated yarns by 30%. Ultrasonics have been proposed for laundering, warp sizing, and dyeing operations, but it remained for an English concern to introduce a slower speed agitation, imparted by a vibrating-wedge type of mechanism, for improving the effectiveness of open-width washing machines. Fabric surface scrubbing was achieved through oscillation of a wedge-shaped container placed inside of another container, the water pressure fluctuation creating a high state of turbulence.

Reduced bleaching time and better whiteness were credited to a new inhibitor to protect stainless steel during chlorite bleaching, and a Du Pont bulletin issued in February called attention to two specific finishing steps for improving the whiteness retention of Dacron-cotton blends. An English journal published operating details of the new continuous Degussa-system sodium chlorite bleaching plant in a Leicester hosiery mill, while a plant in West Germany boasted of the first range for continuous open width bleaching of cotton goods in a "cold state," utilizing peroxide along with a new, undisclosed element.

A new Rapid Bleach continuous process for medium to heavyweight fabrics by the Du Pont Electrochemicals Dept. incorporated caustic pretreatment in the first J-box and was effective in cutting cloth storage time to as low as eight minutes in each J-box. J-box costs were reduced by up to 75%, and bruises, rub marks, and creases were eliminated. Progress was also reported in determining optimum operating conditions for the high-speed bleaching process for kiers and package machines, with processing time reduced by as much as 50%.

Certain vat dyestuffs requiring no dispersing or wetting agents were offered by the Imperial Chemical Industries, Ltd. in "SQ" grain form to meet the needs of continuous dyeing processes involving padding, providing a high reduction rate and less tendency for color migration during drying. A new "Pad-Fix" method for level dyeing of Dacron polyester tow was described by Du Pont in their *Dyes and Chemicals Technical Bulletin* last summer, and the Textured Yarn Co. of Philadelphia announced development of means for dyeing bulk yarns for the circular knit trade on known equipment in a full range of shades with assured color uniformity, dimensional stability, and good colorfastness.

From England came reports of a horizontal high-temperature beam dyer for lightweight knitted and woven fabrics, making possible economical dyeing of large batches as well as the continuous dyeing of cellulose staple in fiber lap form with Procion fiber reactive dyestuffs.

An undisclosed chemical agent in which polyolefin fiber, fabric, or film was first immersed afforded dyeing with any acid or basic color, according to reports of a discovery at the French Institut du Petroll. A West German concern introduced the Bellfour Colorplast machine, combining hosiery dyeing and finishing in a single process with a saving of dyestuffs. The dyeing of acrylic fiber and wool blends to obtain union shades with good fastness was the subject of separate reports issued by the Chemstrand Corp. for Acrilan and the Dow Chemical Co. for Zefran. The Gagliardi Research Corp. was credited with the invention of the "Silrama" process for dyeing and printing glass fabrics to yield brilliant lightfast colors which were resistant to laundering and drycleaning.

Printing. In the field of print-

*Part 1 appeared in the January, 1960, issue, pages 92-95; Part 2 in February, pages 144, 145, 147, and 149.

It is not a matter of chance that the wheels of progress continue to turn at Cone Mills. More than twelve thousand employees with textile manufacturing "know-how" combine their skills in a continuing effort to produce better fabrics today than were produced yesterday. In this way the quality that is needed to keep the wheels of progress turning is woven into each fabric that bears the name of CONE.

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Developed in the laboratories of GDC, Indanthrene Maroon Brown B Infra Paste represents the most important advance in vat dye chemistry in recent years. Although not an anthraquinone or indigo type, this new GDC dyestuff offers all the desirable qualities of a vat dye with greater economy and a distinctive maroon brown shade unequaled by any other manufactured dyestuff.

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...An original development in vat dye chemistry...A timely fast brown shade that is otherwise unobtainable with a "straight" dye...All the well-known fine qualities of vat dyes, with unsurpassed leveling properties and economy—for the prestige dyeing and printing of cottons and rayons.

INDANTHRENE MAROON BROWN B INFRA PASTE is a development of more than theoretical interest. It is a significant and very useful addition to the dyehouse inventory for running colorfast, fashion-wise shades. The attractive maroon brown tone dyes with the excellent fastness characteristic of vat colors and with top efficiency in dyehouse production.

INDANTHRENE MAROON BROWN B INFRA PASTE in medium depths of shade exhibits a lightfastness rating of 6. Fastness to AATCC Wash Test #4 is rated at 4-5. Fastness to 0.3% chlorine solution is 3-4.

INDANTHRENE MAROON BROWN B INFRA PASTE provides yet another plus factor in its dependable working properties. Speck-free results are inherent from the high standard of Indanthrene Infra Pastes. The color is extremely level dyeing and well suited for regular vat dyeing procedures on conventional equipment. A special printing type is also available. The dye is a "natural" for indoor and apparel shades on cellulosic materials and blends, offering full satisfaction to mill management and consumer alike.

FROM RESEARCH TO REALITY

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ing, the Du Pont Co. received a patent covering the application of aqueous vat dyes without a reducing agent. The new technique was said to provide sharper, more intense colors than are obtainable economically by other printing methods and at printing speeds which were higher than those usually attained with the conventional vat process. A new product described as a "dye-weld" was offered by the Tanatex Chemical Corp. for use with disperse dyes to print polyester-fiber fabrics yielding good fastness properties and eliminating steaming.

The B. F. Goodrich Company demonstrated a spray printing technique, eliminating the cost of conventional printing equipment and engraving rolls, but limited to the production of random multicolor effects. At Milan a novel screen printer was shown which provides for drying the cloth after each color is applied. Also exhibited was a roller printing machine in which the color is built up in the final pattern in a dry state on a roller which is run against wet cloth to effect transfer of the pattern. Claims were made for the use of up to 200 colors on a single roller and an operating speed of 20 yards per minute.

A Japanese company reported wide acceptance of an automatic machine capable of screen-printing patterns with up to 21 distinct colors at speeds of up to 12 yards per minute, and in France there was demonstrated a single polychrome cylinder which does not require engraving but prints textiles in any number of colors. A new roll-type, gas-fired curing machine in use by a New Jersey printer had a capacity of almost 200 yards of fabric in the unit at one time and operated on a finishing range at from 60-65 yards per minute.

Introduced in England, the Dalglish - Artos rotary polymerizer with a capacity of 450 yards of cloth, provided for longer treatment times and lower temperatures.

The Proctor and Schwartz THR knitgoods dryer featured high capacity, compactness, and tension-free handling of multiple strands of tubular or flat knitgoods with continuous agitation and complete relaxation, and the Andrews & Goodrich new antimigration radiant dryer offered exceptional economy in gas consumption with fabrics exposed to flat surfaces at temperatures of from 400-800 F for only 10 to 20 seconds. Still another new dryer, of particular interest for short runs was the English-made "Air Spin" dryer, consisting of two independent halves specially designed in aerodynamic form to minimize air drag.

Spray Process. Developed in cooperation with a manufacturer of spray equipment and a bleachery, the Du Pont "Unifog" spray process was considered more versatile than the customary padder for providing uniform deposition of textile processing agents to one or both sides of a fabric. In addition to featuring low initial cost, as well as reduced maintenance and lower chemical and operating costs, this system, involving passage of cloth between a series of "misters," showed promise of eliminating drying. Also suggested were more economical utilization of solvents and the obtaining of special effects by applying one agent on the fabric face and another on the reverse side.

Wash-and-Wear. Methods for improving wash-and-wear finishes continued to occupy many research workers during the past twelve months. The Joseph Bancroft & Sons Co. abandoned the unimaginative term, "Process X," assigned to a new nonresinous finish to impart superior easy-care properties to cotton or cotton-blend fabrics, and adopted the more descriptive name of "Ban-Care." Emphasis was placed on the high degree of wet wrinkle-recovery, soft, nonirritating hand, and dimensional stability.

In the meantime, Deering Milliken announced improvements in their original "Belfast" finish and merely added the word "New" to the original title.

Research directed at providing minimum-care woolen fabrics continued to show promising results, with the U. S. Department of Agriculture concentrating on a modified epoxy resin treatment and sponsoring further investigation at the Fabric Research Laboratories, Inc.

Further information on any of the research achievements described by Mr. Goldberg in this article can be obtained by writing The Editors, Textile Industries, 806 *Peachtree St., N.E., Atlanta* 8, *Georgia.*

If there was a dearth of new chemical methods, there was no shortage of new names. The Swedish Textile Research Institute claimed to have developed a washable wool fabric, giving it the name of "No Press" and the process developed by Professor J. B. Speakman of Leeds University for imparting durable creases and pleats to wool cloth was marketed as "Immacula" by the English firm of Proban Ltd. "Wonder Dry" and "Carefree-Wringable" were chosen by the English Calico Printers Association to designate two new wash-wear finishes for shirtings and dress goods.

Proofing. Do-it-yourself dyeing and mothproofing have been known for many years, but something new was added when one company introduced "Mistol" aerosol silicone spray for home applications of a water-repellent finish. Going one step further, Puritize Protective Rinse was marketed to be added in laundering to render clothes lastingly bacteriostatic. Described to a group of textile chemists at a meeting in the Midwest early last year was "DPA," diphenolic acid, a new chemical with promise of a wide range of applications, including use in water-repellents, softeners, antistatic and plasticizing agents as well as for dyeing and stripping.

One of the year's most outstanding developments was a durable

costs come down

with the CARTER "Supreme" traveler

yarn quality goes up

Yes . . . you pay more for Carter's "Supreme" plated traveler, but you get profit-performance that justifies the name.

Problems of rust – nep control – excessive traveler changes and down time . . . are met and solved with the cost-cutting "Supreme" traveler. Pioneered by our own metallurgical laboratories . . . incorporating all of the traditional CARTER craftsmanship and quality – the "Supreme" traveler makes a material contribution to the production of finer, stronger yarn – made and sold . . . *profitably!*

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water-repellent treatment, "Quarpel," disclosed by scientists of the QM Research & Engineering Command at Natick, Mass., in December. This promised to be of great interest in commercial applications as well as for military rainwear. The product consists essentially of a combination of the pyridinium type compound and a fluorocarbon in a 2:1 ratio, and superior performance of treated conventional cotton rainwear fabrics was demonstrated in a series of tests conducted at the Natick laboratories.

Reports presented at last year's one-day chemical finishing conference sponsored by the National Cotton Council covered some of the latest research achievements in wash-wear resins for both woven and knitted cotton fabrics. Also discussed was a new silicone alloy developed at the Southern Regional Research Laboratory providing excellent water-repellency with only 1 to 2½% add-on and requiring only five minutes of curing at 150 C. Represented as being suitable to make water-repellent, "breathable" rainwear by virtue of its structure, which affords water-vapor permeability, was a process for making a microporous plastic film and later laminating it or otherwise combining it with a textile fabric.

New approaches to the static problem were explored by both chemical and fiber producers. An Ohio concern patented a synthetic seat-cover fabric made conductive by deposition of a metal throughout its structure, and a German chemical company introduced a low-priced antistatic finish for 100% polyester fiber fabrics, claiming elimination of the usual glassy and greasy effect. The Chemstrand Corp. issued a bulletin listing seven durable antistatic agents for Acrilan, and others recommended for providing good temporary protection.

Judging from their continued attack on objectionable odors in textiles, chemists may be regarded as being particularly nosey people. A Brooklyn company designed large air-conditioning units to control free formaldehyde fumes liberated from resinated fabrics and garments in storage rooms, warehouses, and cutting plants. There

was no admission of any lack of confidence on the part of the same manufacturer in later marketing a new chemical, suggesting that it be used in the catalyzed resin bath before padding to absorb free formaldehyde.

A more basic approach was taken by a Connecticut finisher who offered a single-bath method to impart a bacteriostatic agent in combination with wash-wear finish for cotton knit goods with the self-explanatory name of "De-O-Dor." Still another technique was patented by the West Point Manufacturing Co. Designated as "X-O," this method utilized sodium meta bisulfate, ammonia, and a wetting agent for the elimination of odors from all resin-treated cottons and blends.

The ills of pills were still not forgotten during the past year, and

inventors of the Deering Milliken Research Corp. patented a method for reducing pilling tendencies of fabrics containing at least 40% of staple polyesters. This comprised the application of an aqueous solution of a thermoplastic vinyl resin with a softening point between 250 and 350 F, then heating the fabric momentarily to this temperature range.

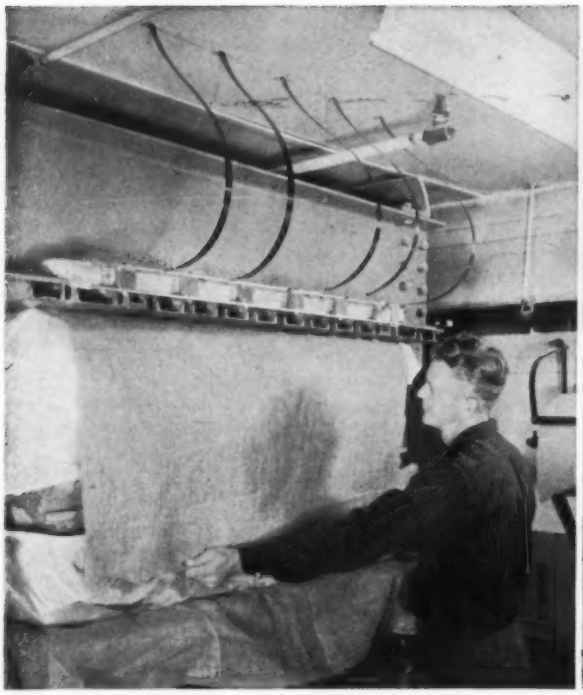
Another method involving shrinkage of the polyester fibers and increasing the density of blends of polyesters and cellulosic fibers through use of a chemical treatment was patented by the Du Pont Co. last August. A moisture-proofing process which was only vaguely described as relying on a treatment with various resins was acquired by the Firestone Tire & Rubber Co. last October.

A new flameproof finish originated by Proban Ltd. in England promised to be cheaper and more effective than the original hot application method, cold processing allowing for a considerably larger margin of error. The incorporation of certain pyrophosphates in the spinning bath during the manufacture of cellulose acetate yarns was disclosed as a new approach to the flameproofing of such yarns in two patents assigned to the Du Pont Co. last March. In January a French inventor patented a method for increasing the wear resistance of textiles by impregnation in a first bath of an aqueous emulsion of a resin, a plasticizer, and gelatin, and a second bath of formaldehyde and acetic acid or aluminum acetate.

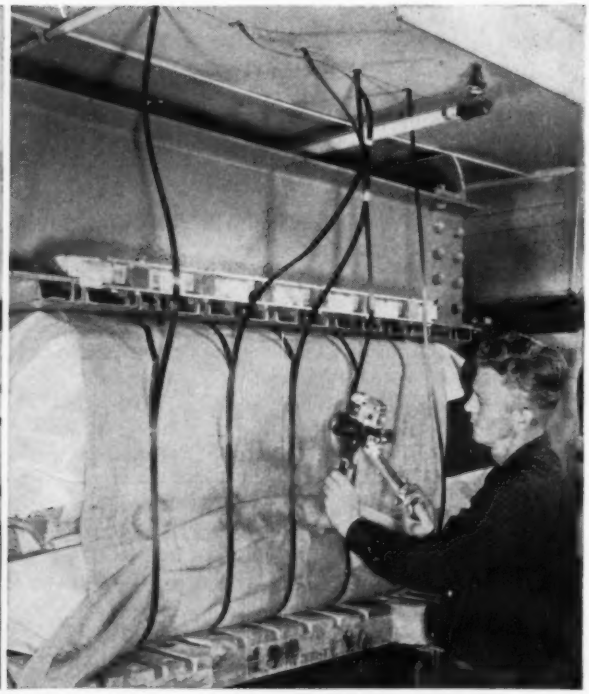
Several new ideas for reducing the soiling of textiles were published during the past year. One treatment for carpeting relied on the incorporation of a mixture of barium sulfate, a softener, and carboxymethylcellulose, according to the invention of a southern mill; while suggested for eliminating some of the dirt pick-up due to static electricity charges was the use of "Stat-Eze," applied as a dry powder or in solution. Du Pont chemists reported increased soil-resistance of textile fibers which were first treated in a bath of basic aluminum formate and a silica sol. Not very promising as a candidate to be voted "most likely to succeed in its class" was the invention of a South African for a unique treatment to make shirt collars and cuffs dirt resistant by applying a mixture of stearic acid, sodium hydroxide, and glycerine, then hot-ironing to form a protective film.

DEVELOPMENTS IN FABRICS

The number of new products introduced last year to afford protection against cold weather indicated concern for or anticipation of a long, hard winter. In January the Star Woolen Co. marketed an all-Dacron interlining batting under the sophisticated name of "Da-Bon-Air," while "Curon" multicellular plastic interlinings became available in a new type with a special slip-back finish, making possi-

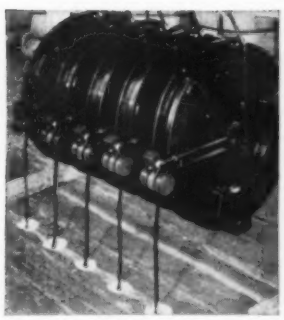


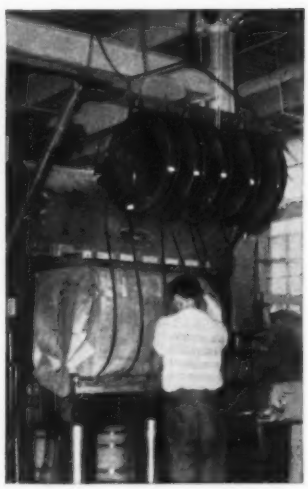
Strapping is fed from dispensers in room above press (inset). A magnetized bar holds the straps in position while bale is readied.



Signode's exclusive Model SFC tool tensions the strapping, feeds seals from magazine, and crimps them. Straps are severed at the seal. No waste strap.

Signode way produces denser bales and reduces strap use by 17%





Strapping dispensers can be in a variety of locations. Above, they are shown set up in an overhead storage area; at right they are shown installed on a framework over the press. They may also be installed on the floor beneath the press or behind the operator.

Here's an example of a simple and inexpensive answer to a packaging problem. Waste—which was part of the former cut-to-length strapping method—was eliminated, with a 17% saving in the amount of strapping used. Bales are better looking. Their increased density saves about 7% of valuable space in storage and shipment. The entire strapping operation is simplified, goes easier and faster.

Why not let a Signode man take a new look at your packaging and shipping operation. He has an eye for savings, specialized knowledge of textile applications, and a complete line of strapping tools and machines at his disposal. Call him today, or write:

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First in steel strapping

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ble quilting without use of a scrim cloth.

Woven woolens as well as acrylic fiber blends and knitted acrylics backed with polyurethane foam to provide warmth without weight were announced for the 1959-60 winter season. Also directed as providing maximum insulation with a minimum of weight was the proposal by the I. C. I. Fibres Division that layers of durably pleated Terylene and cotton fabric be used as an insulating medium to replace woolen blankets.

"Fur-look" effects were achieved in men's and boys' wear by the printing of alpaca and similar pile fabrics. The British Cotton Industry Research Association created a new method of applying aluminum foil to permeable textile materials, retaining their ability to "breathe," but commercial use was not expected to be attained for several years. With no claim for inspiration from Santa Claus, a British firm showed a new multicolored wool fabric which was fabricated with a touch of reindeer hair, and another English manufacturer boasted of having produced the lightest wool and cotton blend fabric in the world, a 2-ounce-per-square-yard shirting.

The U. S. Navy was said to be testing new cold weather clothing comprised of two layers of rubberized fabrics coated with thin aluminum film, held apart by a spring-like plastic. Not to overlook the importance of comfort in combat uniforms in tropical heat environment, the Westinghouse Electric Corp. developed an air conditioner built into a lightweight insulated garment with provisions for electrical heating as well as cooling and designed to maintain a comfortable level while being worn at temperatures ranging from 40 below zero to 135 F.

A new method for producing knitted fabrics with a crepe effect, patented by British Celanese, involved winding together yarns with different ranges of elastic recovery onto a package under moderate tension, then withdrawing them from the package and knitting under tension. Another English development that might make it difficult to distinguish right from wrong when putting on hosiery was a device for circular knit stockings which leaves the inside of the fabric as clean and free from ragged ends as the outside.

Nonwoven Fabrics. In the nonwoven field, Chicopee Mfg. Corp. developed "Keyback" open-mesh interfacing fabric of nylon and rayon, and Wellington Sears offered a new lightweight material to replace knit goods, osnaburgs, and drills as a backing for vinyls. Utilizing papermaking machinery for its manufacture, "Dextex," a new interlining fabric for wash-wear garments, made of long-staple Dacron fiber, featured lightweight, superior resilience and crease-recovery, high porosity, high strength, dimensional stability, and quick drying.

Progress in the improvement and use of needle-punched batts or felts was reflected in one patent issued on a machine designed to make felting more uniform, closing the holes of the punching needles, and another on the impregnation of a batt with a thermosetting resin, deforming it into desired shape by deep-drawing and curing. The Chemstrand Corp. announced that nonwoven materials of 100% Acrilan acrylic fiber were under evaluation.

The Engineering Section of the British Rubber Products' Research Association designed and installed a bath impregnator to replace spray techniques for nonwoven fabrics, permitting the production of fabrics as light as 1 oz per square yard. Also in England, one manufacturer was said to be applying a waterproof finish to one side of a lightweight high-tenacity rayon cloth for use in hospital cot sheets, ward curtains, and pillowcases, claiming "breathability" as well as resistance to washing at the boil and pressing without loss of special properties.

Two novel bonded fabrics of German origin were described in a British publication last July. One of these, "Skelon," intended for outerwear, was produced from slivers of wool or wool mixtures across which were laid wool yarns, the complete assembly then passing through a felting machine. "Floretta," another bonded material suitable for linings, curtains, and packing, was made by spraying a resin solution on a cotton sliver, pressing, and oven-drying. Supposedly in use in East Germany was a new technique developed in Russia for the production of suits with glued lapels, shoulder pads, and linings, eliminating the need for sewn seams.

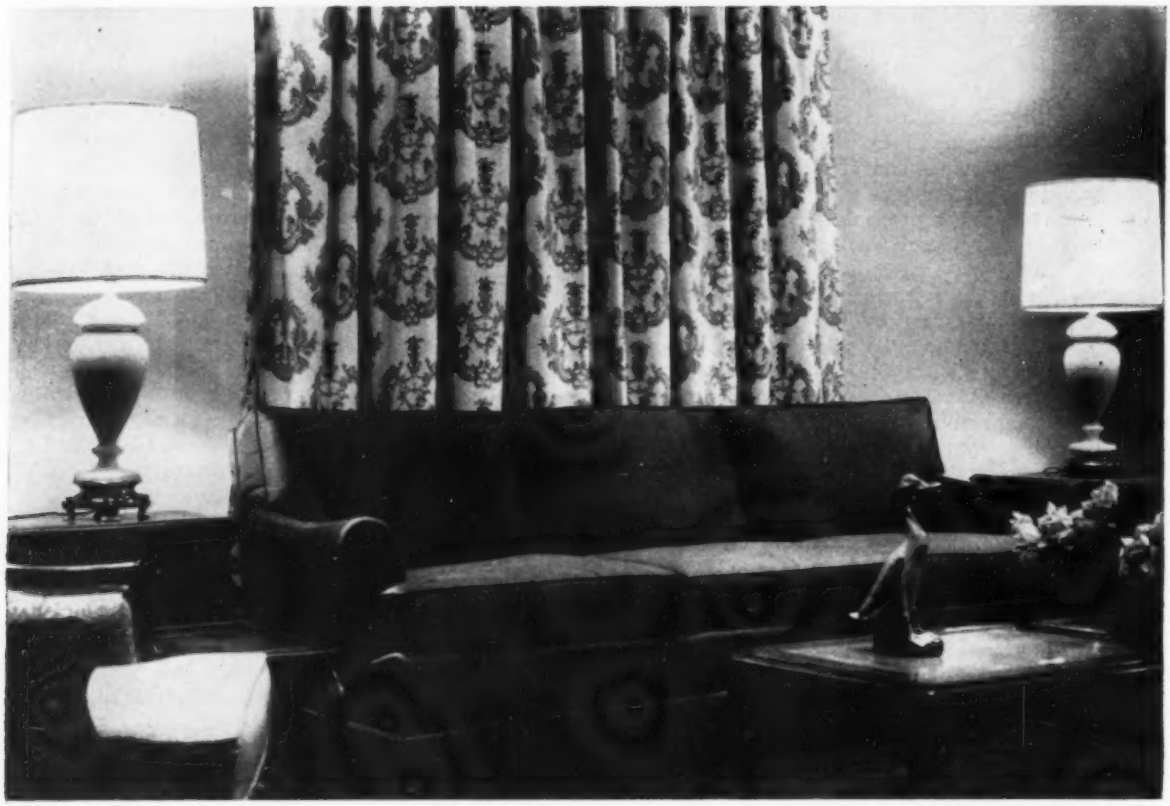
Knit Goods. An English concern introduced a resin-impregnated knitted fabric as a base for reinforced plastics, the two-way stretch characteristics making it suitable for forming into shapes achieved in sheet metal only with difficulty. Carpets direct from sliver knitted into a light warped background material and sprayed with latex were produced by a firm in Scotland, and a Dundee firm developed a fire-protector made from flax canvas to be used near fireplaces where there was danger of damage to carpeting from live coals when a fire is left unattended. What was said to be the world's first carpeting of dope-dyed nylon staple was marketed in this country by Bigelow.

"Pick up a couple of cans of tights along with the pork and beans" may become a common request from mothers to their children sent to the supermarket, if a newly developed container for soft goods recently introduced in Canada becomes popular in the United States. Another ingenious packaging idea was that announced for the marketing of children's nylon net petticoats. The garments were rolled into an irregular ball and stuffed into a striped paper container to resemble a giant ice cream. Cotton enthusiasts could be expected to register violent opposition to the vendor's suggestion that these packages resembled "cotton" candy cones.

New Uses. Means for the conversion of textile fibers or fabrics to almost pure graphite by an extremely high temperature electri-

Another new development using

B.F.Goodrich Chemical *raw materials*



Superba Print Works Division of Home Curtain Corporation, Paterson, New Jersey, uses Hycar in inks to print these drapery fabrics. Finished drapes feature the "Add-A-Drape" patented design that permits buying single width draperies and joining them into multiples at home—panels can be matched or mixed and disengaged separately for easier washing or dry cleaning. B.F.Goodrich Chemical Company supplies the Hycar nitrile latex.

Drapes are "guaranteed against crocking"

. . . ink contains Hycar

"Every yard of our printed fabrics can be guaranteed by us against crocking," says the printer of these fabrics. The reason: Hycar nitrile latex is added to ink formulations as a pigment binder.

Hycar not only provides excellent pigment binding properties and crock resistance, it also gives ink formulations flexibility and good aging properties to sunlight—ideal for applications like this drapery fabric. In addition, Hycar makes possible excellent washfastness and dry cleaning properties.

Here's another example of service you can get to produce better textiles for wider appeal, often at lower cost. For more information, write Dept. KA-2, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

PRODUCTS FOR TEXTILE IMPROVEMENT

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cal treatment was reported to be in semicommercial pilot plant production by the National Carbon Co. Among suggested applications were for the reinforcement of plastics for high temperature operations, in bag-type filters for hot, oxidizing gases, and for the handling of corrosive fluids.

An original use for a textile material was noted in the report that the Dow Chemical Co. had developed fabric snow fences of filament saran micro-tape, with advantages of low storage and handling costs. Really "for the birds" was the use in Switzerland of rayon tow spread into a thin veiling and pulled taut between stakes to provide protection of crops against bird damage.

Evidence that Americans do not always come up with the most fantastic ideas in merchandising was seen in reports from three foreign countries during the past year. In South Africa, nylon stockings with a colored seam in front were being marketed at nearly twice the price of ordinary stockings. A French firm offered "his and her" bedsheets woven in two lengthwise halves of blue on one side and pink on the other, while a Scottish inventor proposed to introduce durably scented shirts for men to neutralize body odors. Not very promising for providing a large market for rayon in this country was the

use of filament rayon yarns in gas mantles recently exhibited in England.

Among the 1959 patents issued relating to fabrics was one covering a nonwoven carpet formed by bonding pellets of balled-up wool or other fibers to a backing and another for making a heat-reflective fabric by coating the surface with hollow microspheroids of low heat conductivity. Garments molded to order while you wait may become a reality if it ever becomes practical and fashionable to utilize a British patent issued to the American Viscose Corp. It was suggested that seamless garments which might be thrown away when soiled could be made by blowing fiber into a porous mold having the desired shape, bonding the fiber, and removing the mold.

NO ATTEMPT has been made to present each and every new product, process and machine development which was announced in 1959. The above summary of a great many of these achievements may serve as a reminder of the significant progress made by all phases of our industry, always alert to offering something new, improving the old, or effecting economies in production techniques.

Addenda

New Man-Made Fibers and Yarns. Since the first part of this review was prepared, the Du Pont Co. has introduced a new altered cross-section filament nylon yarn to provide improved hand and cover, a Type 62 filament Dacron with a luxurious hand and dyeability traditionally associated with silk, and an improved Orlon Type 39 staple with superior anti-static properties. The Industrial Rayon Corp. announced "Nyloft" textured nylon yarn for carpet manufacture, and Chemstrand Ltd. disclosed plans to make Acrilan in solution-dyed colors in England.

It was also reported that two Japanese firms planned to start full production of Vinylon K-56, an improved type of the original polyvinyl alcohol fiber, while full-scale output of continuous-filament Vinylon yarn was scheduled for 1960.

A new-type 16-denier Verel, "HB," for carpeting, said to contract 10-15% after bulking in steaming, piece dyeing, or latex curing, was introduced by Eastman Chemical Products, Inc., at the close of the year. *End of Series.*

Machine measures length of fibers in tops, makes diagram

■ THE WOOL Industries Research Association of England is reported to have applied for a patent on a machine to measure fiber lengths in tops only. [The W.I.R.A. Fiber Length Machine, which measures length of individual fibers at all stages of manufacture (see T.I. for Feb., 1960, p. 157), was developed previously by this same organization and has been commercially available for some time. —The Editors]

A prototype model of the new instrument is said to have been built and tested in a mill on wool, Orlon, and Acrilan tops with satisfactory results. It was found that the test procedure is much quicker than hand stapling, results are not influenced by the operator making the test, and a permanent record of the fiber diagram is produced.

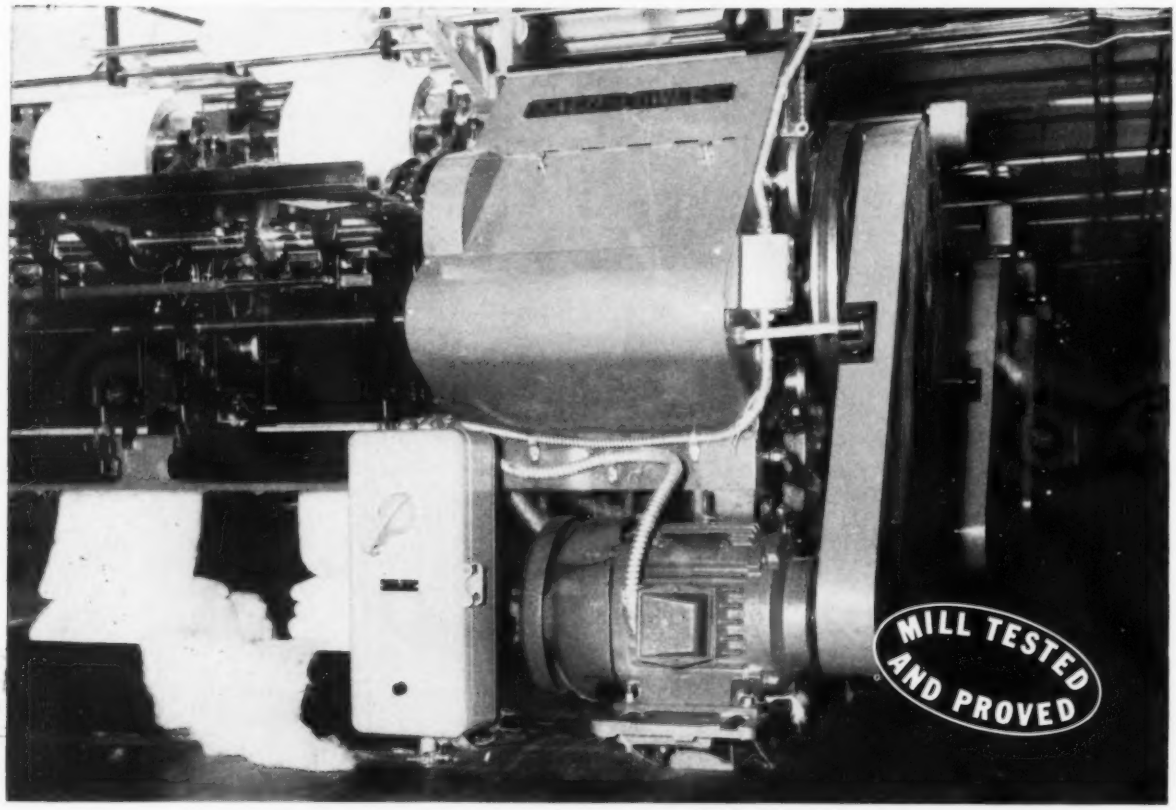
Principle of Operation. Designated the WIRA Fiber Diagram Machine, it operates on a draw of fibers. A doubled thickness of top is first parted by hand and a squared end produced by removing a number of draws with a metal grip. A representative draw of fibers with aligned ends is then taken and sealed to a flexible strip.

This draw is traversed between the electrodes of the fiber diagram machine which indicates the amount of fiber at different distances from the aligned ends. At the same time a graph is made on a sheet of transparent paper which permits visual comparison of diagrams by placing one over the other. This record is said to be similar to that given by the outline of fiber ends in the ordinary hand stapling test when fibers are laid down with aligned ends in decreasing order of length.

When diagrams made on this latest machine are compared with those produced by the hand stapling method and by the single fiber type of fiber length machine, there is close similarity, the three diagrams being almost identical, according to the report.

Time required for the production of a diagram with the machine is about 15 minutes.

Commercial production of the machine is being arranged with Louis Newmark Ltd., an English instrument manufacturer represented in the U.S. by Stellamcor, Inc.



Reliance Lint-Proof motors in operation at Wiscasset Mills Company, Albermarle, North Carolina.

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Totally-enclosed, Duty Master Lint-Proof motors can be installed under the frame to save valuable floor space. No need to keep them accessible for cleaning.

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*after 75,000 hours of production testing

Arrow LATCH NEEDLES

KNITTING SECTION

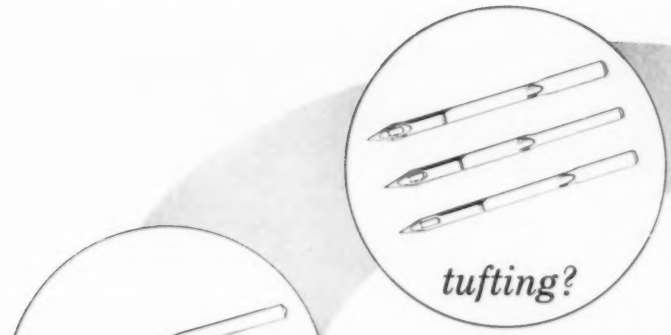
Simple seamless quality test

How a veteran knitting department head keeps tab on goods produced

by Don Numan
Exclusive

NEVER BEFORE in the history of seamless hose making has production of quality goods been so essential. Especially is this true of mills making goods which are sold in the upper retail brackets.

It matters little whether argyles, wrap patterns, stretch goods, anklets in plain rib or fancy top numbers or "clubby" bobby socks are being made, the all-powerful man, Mr. Buyer, wants quality. And quality we must provide if



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our mills are to keep running under today's highly competitive market conditions.

What can those who are responsible for operation of the knitting department do to insure production of goods of high quality? One thing, of course, is use an effective quality control system.

Notice that I said *effective* quality control system. This doesn't mean that an elaborate, costly method is required. In fact, my experience has been the simpler the system, the better it is for all concerned.

KNITTING DEPARTMENT QUALITY CONTROL SYSTEM

There are probably as many quality control systems as there are seamless mills. Some are, of course, better than others. Here is a method which I believe is effective as I have used it for over 20 years with reasonably satisfactory results.

It will be seen that this is a very simple and direct system which requires a little bit of extra work by a few people, but it tells what is going on while the goods are being produced — a must for any mill to operate profitably, especially those plants required to maintain a large grey stock of goods until dyeing and finishing instructions are received.

Test Procedure. At least once each week, and oftener when information on a given style is needed or if a new style has been adopted, a quality check test is made.

One sock from each knitting machine in operation on all shifts is turned in to the knitting department office.

Every machine fixer is required to see that each machine in his line has been sized, adjusted, and checked for quality before the knitters collect the test socks and turn them in for testing. Since all knitting machines are sized and checked at four-hour intervals on every shift, this does not create a problem.

No excuses by fixers are accepted. The day and time to collect the test socks are set. The test is made at least once a week without fail. Fixers have time to go over their machines and tell knitters when they are ready for them to collect socks from their machines.

Like kinds and sizes of socks are tied in bunches, and on each bunch a ticket indicating only the size of the goods is attached. Then all of the bunches from one fixer's machines are tied into one bundle which is identified by a ticket with that fixer's name on it.

When all of the test socks have been received in the knitting department office, the next step is to make sure that each fixer's work can be identified as it goes through the finishing processes and when it is returned to the knitting department for final checking.

Stainless steel safety pins, equipped with numbered fins, and small cards are used for this.

As many as eight or ten socks of the same size and produced on one fixer's machines are pinned together at the top with one of the safety pins to permit the socks to be looped without removing the pin. Then on a card the fixer's name is written, followed by the pin number with the size of the socks opposite the pin number.

The entire test lot is then sent to the looping department for processing, and the identification cards are given to the boarding room foreman so he will have the size information needed for boarding the test socks when they are received from the dyehouse.

In the looping department the test socks are looped in the same manner as regular runs. After looping, each bunch of socks is turned separately so the identifying safety pins will not be mixed.

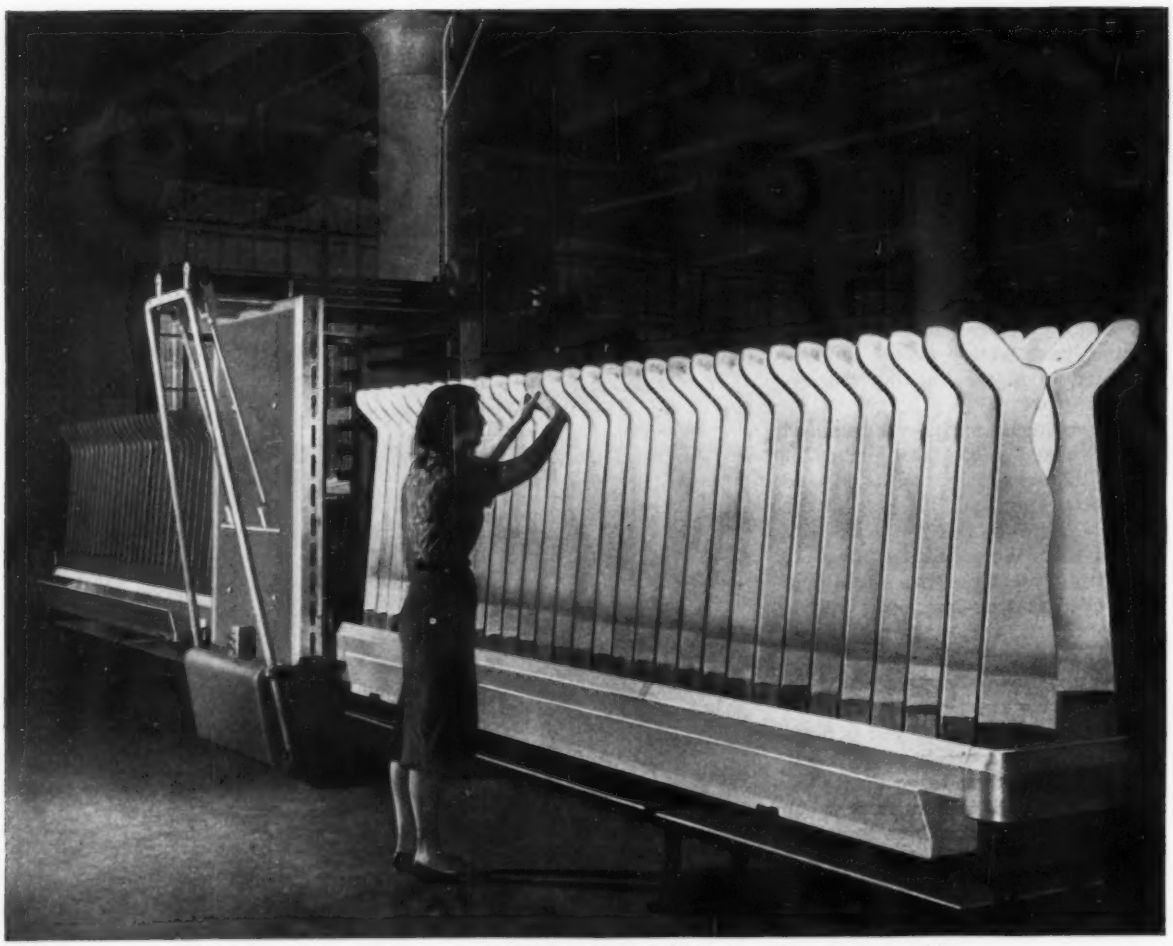
When turning is completed, the entire test lot is sent to the dyehouse where processing is also the same as for conventional runs, except for the fact that the pinned bunches remain intact through the wet processing operations.

Then the test socks are sent to the boarding department, where the identification card for each bunch is placed with the bunch of socks bearing the same number on its pin. When the individual bunches of socks have been boarded, they are pinned together again (it is necessary to unpin them for boarding), preferably through the toes. The complete test, including the identification cards, is then returned to the knitting department office for final checking.

The knitting department superintendent checks the goods. All hose which do not meet the standards for over-all length and the various other dimensions, and those in which streaks, loose wales, or other defects which would not pass finished goods inspection, are

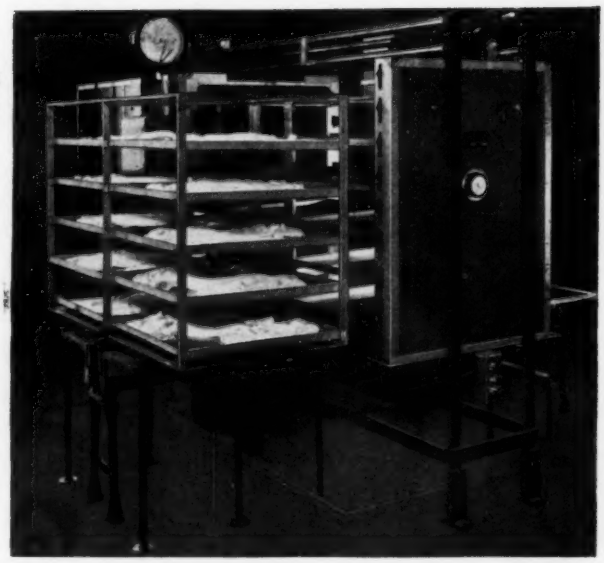
One of the numbered safety pins which the author uses to identify test socks is shown pinned through the toes of this batch.

New dimensions in production with Turbo Machines



Turbo Dye Boarder is a complete hosiery dyeing and finishing operation in one machine.

Modified filament sweaters are "set for life" in the Turbo Sweater Setter.



Here are two Turbo Machines, mill-proved for increased efficiency, and lower production costs.

The Turbo Dye Boarder combines dyeing, boarding, setting, and drying in one push-button controlled operation. Pressure dyeing accomplishes deep penetration of dyeing and finishing materials into the fiber, bringing about rich color values, more life and elasticity, better light and wash fastness, better snag resistance, and longer wear. Production capacity is 140 dozen pairs per shift with one operator.

The Turbo Sweater Setter is a tray-type machine with a production rate of 400 dozen sweaters per 8-hour day. Electrical timers regulate the vacuum and steam cycles to insure fast, uniform setting with no air or moisture pockets. The machine thermosets modified filament sweaters, assuring dimensional stability of the fabric, increased wrinkle resistance, improved dyeing properties, increased smoothness of fabric surface, and improved hand.

Turbo builds a complete range of heat-setting machines for fibers, yarns, fabrics, and finished garments . . . dyeing, extracting, and drying machines for skein and package yarns . . . finishing machines for woolen and pile fabrics . . . Staplers and crimpers for converting synthetic tow to the finest staple.

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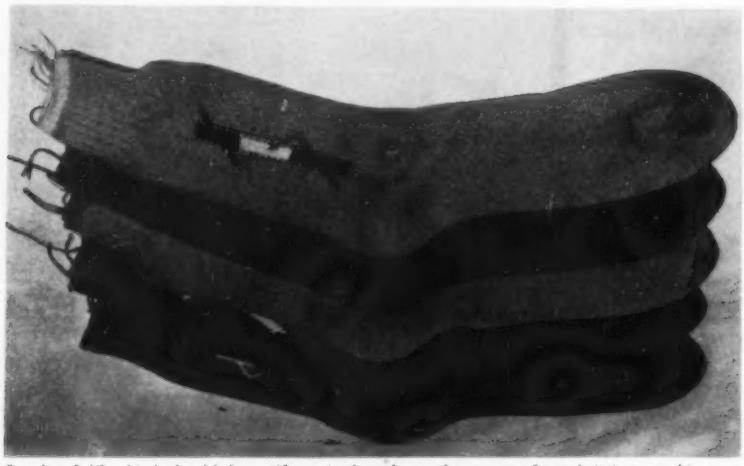


Goods of like kind should be uniform in length as they come from knitting machines so they will look like this after boarding. Each of these socks was made on a different machine.

shown to the machine fixer on whose machines they were made so immediate corrective action can be taken.

Time Required to Make Test. Such a quality check test can be made in two or three days, depending on how much dyeing must be done; of course, ingrain goods can be processed in less time.

The biggest job is gathering and marking the test socks. This can be done for 100 machines in two or three hours. Final checking also can be done in about two hours, if goods are coming through as they should.

How to Get the Most from Tests. In order for the knitting department to benefit most from this system, two rules must be enforced:

1. Each machine in operation must be sized and checked twice each shift on every shift, or once every four hours.

2. One sock from each machine must be turned in for a quality check test on each shift at least once a week.

This procedure will provide a check on every machine every four hours around the clock and three finished socks from each machine once a week (assuming machines are operating on three shifts).

The looping test aids in location of machines which are making bad corners, tucked stitches, bad looper lines, etc., in addition to showing quality of loopings.

The dyeing test provides a check on the dyeing department and shows how the various fabrics are dyeing.

The boarding test shows how well the knitting and boarding departments are doing their jobs. When boarding room personnel find goods which do not fit the forms properly, they should notify immediately the knitting department superintendent so corrective steps can be taken.

When new lines are adopted, it may be necessary to make several tests so all involved can find out what must be done before thousands of dozens are put in grey stock without knowing how they will look when finally finished some months later.

Not a Fault-Finding System. Of greatest importance with this kind of system is full cooperation of all personnel concerned.

Everyone should understand that this quality check test is not a fault-finding system. It simply gives everyone an equal opportunity to show what he or she can do and how well he continues to do it.

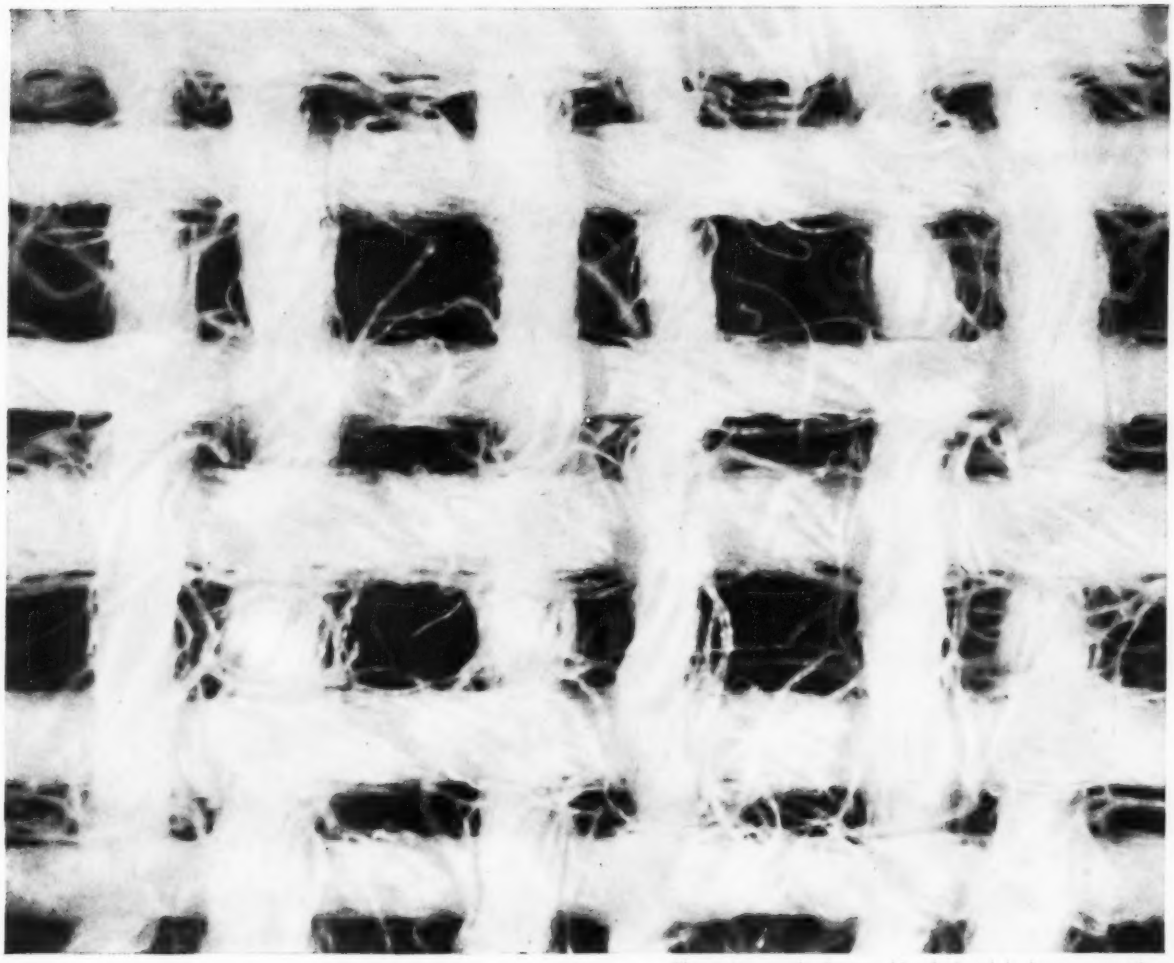
POINTERS ON MAINTAINING QUALITY

Quality Begins in Knitting Department. If half hose are not knitted properly, nothing can be done in the operations which follow to eliminate the defects.

Those words "knitted properly" cover quite a bit of territory. Goods of like kind should be uniform in

Fixers should size and check each knitting machine every four hours.

Looper operators should promptly report bad knitting found.



Photomicrograph of cotton bleached with hydrogen peroxide

High-white and handsome!

Textiles with high whites and handsome colors usually have the most eye appeal. Shell Chemical products play an important role in the production of today's attractive and useful fabrics.

Hydrogen peroxide, a rapid, economical bleach, also finds use as a developer for vat dyes. In the production of minimum-care cotton fabrics, Eponite® 100 imparts wrinkle resistance. It also is an ingredient in an antistatic finish for synthetics.

The cotton fibers shown in the picture were mercerized for added luster. Another Shell product, hexylene glycol, was used as a penetrant in this process. Glycerine is a mercerizing assistant and a moisturizer in pigment printing. Shell Chemical alcohols and ketones find use as resin solvents and dye dispersants.

Choose the chemicals for your own process requirements from the column at the right. A Shell Chemical representative will be glad to discuss your specific needs. Write or phone your nearest Shell Chemical office for samples and technical literature.

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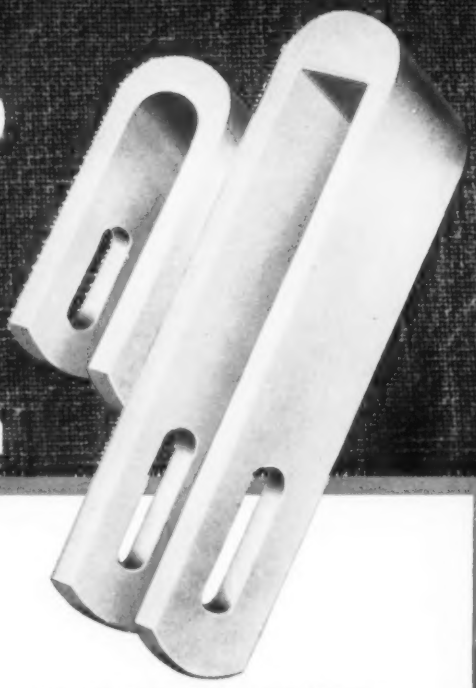
SHELL

Why this lug strap lasts longer...

insures smoother operation



Because of the great strength of Tex-Hide—a product of Gates *specialized* research—the block can be molded into the strap without the use of bolts or rivets. As a result, straps are streamlined and light in weight.

Yet, because of their superb resilience, they will give you longer service, and smoother operation, *than any other strap you have ever used.*

2 big advantages of Gates Tex-Hide Lug Straps

1. Tex-Hide Lug Straps combine great strength with unsurpassed resiliency. Therefore, they soak up blows and shocks *without taking any permanent stretch.*

2. The great resiliency also insures long life for *all parts* of the picking motion, and gives extended periods of operation *without any strap adjustments.*

Super Tex-Hide Lug Straps

Users report up to 5 times longer service on their heaviest looms from Super Tex-Hide than from any other strap.

New Thin-Tex Lug Straps

When extreme flexibility and much lighter weight are needed, Thin-Tex Lug Straps give up to 25% longer life than ordinary straps...and smooth out loom operation.

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Tex-Hide Harness Straps

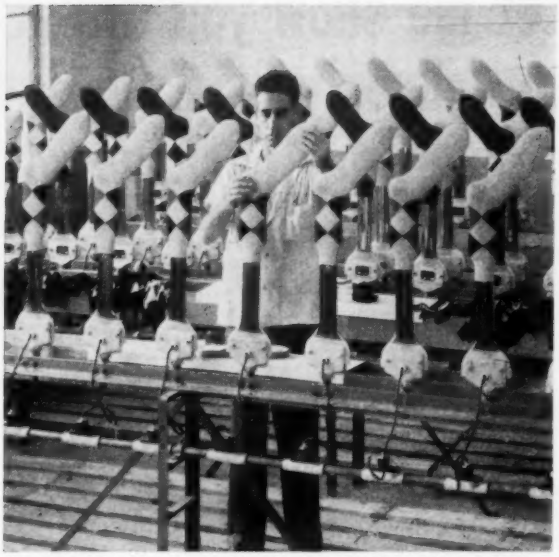
Tex-Hide and Vulco Loop Pickers

Reversible Pickers

TPA 325

Gates Lug Straps

Good dyehouse records avoid use of wrong materials and methods.



Properly made socks can be ruined by poor workmanship in boarding.

length as they come from the machines. They should be free from loose wales, streaks, and wavy or uneven courses. Heels and toes should be uniform in size. Elasticity should be uniform, and courses per inch should conform to the standards for the various styles being made. If elastic tops are utilized, they should be uniform in width and length with proper stretch or elasticity.

To insure production of half hose with these characteristics, it is recommended that a card record or layout sheet be prepared with complete information for setting up a knitting machine to produce each new style adopted. Make enough copies to have one for each machine fixer on like styles so the various fixers can make like adjustments. Chain lists should be included, giving all links in the chain, so all machines can be set up exactly alike—not as each fixer might think it should be done. The card or layout sheet should also show kinds of yarn required, number of ends per feed, over-all length of goods on the sizing boards, etc.

And, of course, sizing boards should be uniform in over-all dimensions and marked so the machine fixers can work toward a common goal—quality knitting.

Too big a looper line can cause as much trouble in the looping department as too small a line, and a loosely knit looper margin is just as bad as one which is too tight.

All knitting machines are equipped with simple adjustments which every machine fixer should know how to use. Getting him to make full use of these adjustment facilities is another story, but it need not be.

Watch for carelessness on the part of fixers. A problem which comes up frequently is failure of fixers to keep the long and short butt needles in proper balance to avoid bad corners in looping. It is downright disgusting to find too many butts of one kind or another in a knitting machine cylinder when the cylinder is plainly marked where the long and short butt needles should start and stop.

Looping. Looper operators can also get careless and incorrectly put hose on their machines, thus spoiling the looks of properly made goods. Poor looping, regardless of cause, does not help to improve quality.

Most of the poorly looped goods result from bad corners made at the knitting machine or improperly adjusted looping machines. Looper operators should check their work at regular intervals to make sure that they and their machines are doing quality work.

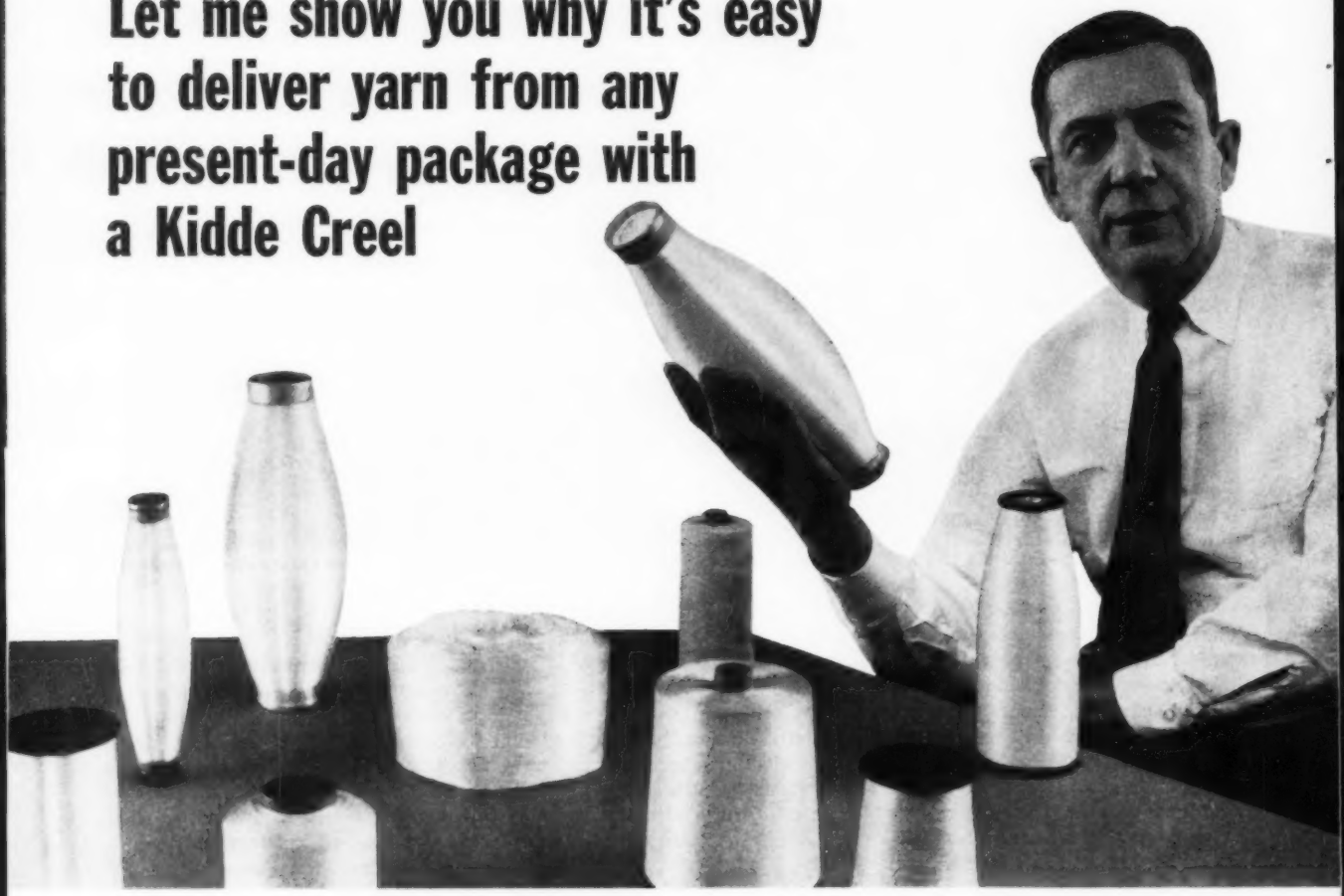
Grey Inspection. This is the place where the strictest quality check should be made. If bad or defective knitting and looping are in evidence, this is where they should be found—not in the finishing department—and promptly reported to the head of the department in which the work originated.

Of course, all knitters and looper operators should carefully inspect their work to prevent defective goods being returned from grey inspection or a bad work report being made. However, the best of operators will get off the track occasionally, and that is one of the reasons for having a grey inspection department.

In some mills efforts have been made to reduce the cost of grey inspection (as it has been practiced for many years) by spot checking inspection and turning goods by hand or mechanical means after looping, with the accent on turning instead of inspection. In some instances this works, cutting inspection costs and getting goods through the mill faster. Results of careful inspection in the finishing department will show whether or not this abbreviated system will pay off for a mill.

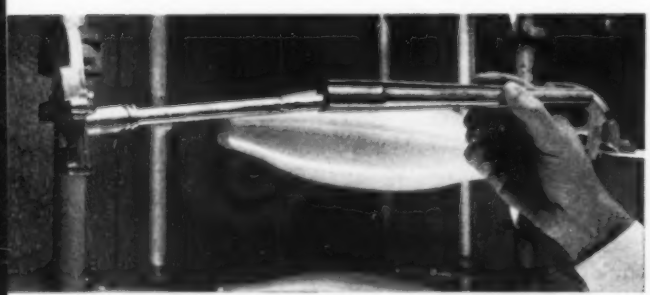
Dyeing. Good results in the dyehouse are dependent largely on good knitting, as mixed yarns, the wrong kind of yarn, and excessively tight or loose knitting can create dyeing problems. Dirt, oil

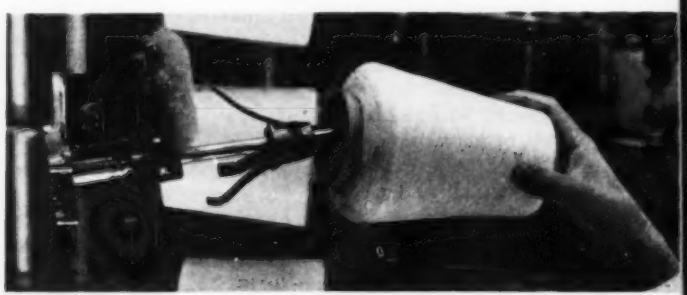
Let me show you why it's easy to deliver yarn from any present-day package with a Kidde Creel



You need only a basic holder and adapters to handle any yarn packages on the Kidde creel. You can see in the picture at bottom left, for example, how easily the basic pirn pin can be equipped with adapters to handle any pirn of textile yarn made today. The snap-on holder shown next to it accommodates any taper cone, as well as a range of straight packages. What's more, we'll design holders and adapters for future packages to accommodate them on the present Kidde creel.

Of course, this is only one Kidde feature. We could describe our tension devices and the uniquely simple Kidde stop-motion. We could explain how Kidde makes a creel to your specifications and how easily you can adjust its clamp-type construction to fit your changing needs. But we have a booklet that does all this. We'll be glad to send you one. Just write or phone.





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TASLAN TEXTURED YARN

is another feature in this issue which knitting mill readers will find interesting. How Taslan is made, how it is processed, its styling and end use possibilities are subjects covered. The article begins on page 84.

—COMING NEXT MONTH—

TI's annual Special Knitting Feature

stains, and use of the wrong type of lubricating oil or too much of the right kind on knitting machine parts can cause more trouble.

On the other hand, use of the wrong wet processing materials and techniques will lower the quality of hosiery that is properly made, so personnel in the dyehouse must be quality conscious, too.

Let no one get the impression that the dyeing operation consists only of heating a tub of water, throwing in a few handfuls of colored powder, allowing the goods to slosh around for awhile, draining the liquid, and rinsing.

Dyeing today's goods, which include all the fibers the Lord made and goodness knows how many man-made fibers, really is an art —one that requires much patience and know-how.

Boarding. Poor workmanship in the boarding room can ruin the appearance of well-made socks. On the other hand, much of the success at this process is dependent on the knitting operation (especially uniform sizing) and good dyeing. Mixing of sizes in the knitting, looping, inspection, grey stock or dyeing departments creates some boarding room headaches that require more than aspirin to cure them.

Finishing Department. The results of everyone's efforts show up in this department—on the inspection and pairing tables. This is the end of the line as far as quality is concerned. Nothing can be done here to correct mistakes made in previous processes.

A lot of work is required to get the goods into boxes and ready for shipment to customers. In fact, a real nightmare begins with what is known as "highclass" finishing as it includes stickers, stamps, pin tickets, riders, labels, diaper bands; inserts; special packing; and boxes of all sizes, shapes, and colors—just to mention a few of the operations, processes, and manipulations a pair of socks must go through before it finally comes to rest in a box of who knows how many assorted colors.

This is further complicated by the fact that the goods must then be packed in cases, hauled to a warehouse, and stacked in neat rows to await a call from Mr. Buyer to ship 10 or 20 dozen cases of goods made for him some months ago.

In the past few years the price of everything needed to produce hosiery has gone up, yet the mills are expected to make and sell goods for less than they did five years ago and at the same time act as broker, banker, and warehouse —even pay for insurance on goods stored which rightfully belong to the buyer.

Keeping large stocks of ready-to-ship goods on hand for the customer's benefit may be necessary, but it really costs money. Sooner or later the mills will break up this bad practice which has been imposed on them.

Say, we forgot for a moment that this article is on quality, not the problems of management in disposing of the goods.

Quality Big Factor in Repeat Orders. In today's competitive market everyone's job is at stake, from the president down to the sweeper. Doing the job as well as the other fellow is not good enough if you can do better. Whether you are a pace setter or just a setter is up to you.

It takes goods of high quality, delivered on time, and a good sales force to get repeat orders, and repeat orders are needed to keep a mill humming.

Hosiery men urged to make reservations promptly

■ AN EXCELLENT business program, a new setting, and lots of entertainment and fun are in store for hosiery mill executives who plan to attend the annual convention of the National Association of Hosiery Manufacturers in Bal Harbour, Fla., April 21-23, according to an announcement by the Association.

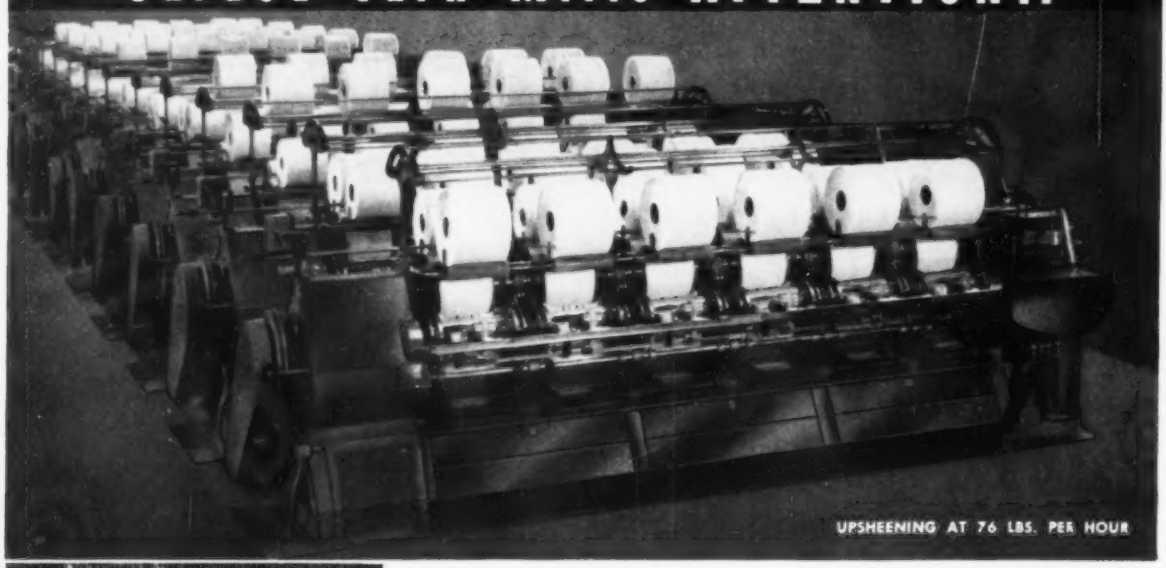
It was recommended that hotel reservations be made promptly, as information from the convention hotel indicates that there will probably be an overflow. Reservation forms are available from the Association offices in New York and Charlotte. Hosiery men are requested to make three copies of the reservation request; two should be sent to the hotel and one retained in mill files.

It was suggested that those attending arrive not later than mid-afternoon on Wednesday, April 20, as a "Welcoming Bar-B-Q" is planned for that evening.

Convention meetings will be held in the mornings on Thursday, Friday, and Saturday, leaving the afternoons free for golf, fishing, attending horse races, swimming, lounging, etc.

For the men, a golf tournament on a private course is scheduled; also a deep sea fishing tourney. For the ladies (a large number of men are bringing their wives), special events —cruises, sightseeing trips, etc.—are planned. The annual banquet, with professional entertainment and dancing afterward, will be held on Friday evening.

Carded Yarn Mills—ATTENTION!!



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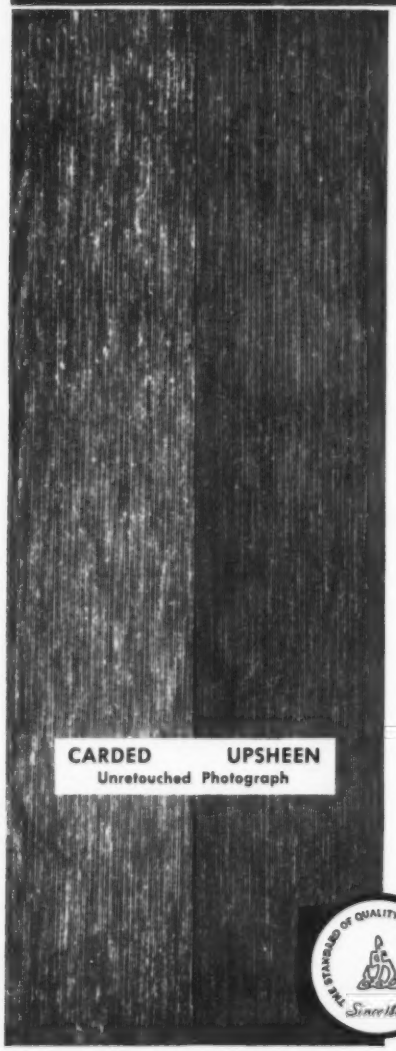

CARDED UPSHEEN
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	CARDED	UPSHEEN
YARN SIZE	20.96	21.37
SKEIN BREAK (lbs.)	103.0	108.1
BREAK FACTOR	2160.	2410.
USTER: AV. MAX.	132.4%	85.0%
C.V.	25.0%	16.8%
SERIPLANE RATING	C—	B

BOTH YARNS were spun from the same stock: Strict Good Ordinary cotton, grade 8 with Micronaire of 4.1, mean length .903 and upper quartile length 1.130.

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*Patents and other patents pending

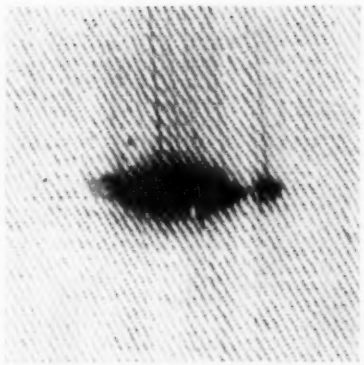
HOW OTHERS MANAGE

Ways to prevent oil stains in cloth

THE EDITORS:

There are numerous ways in which oil stains can get on the cloth, and these stains appear in various forms: (1) there is the blot caused by oil being dropped or blown on the warp or cloth; (2) a streak caused by a single oil-soaked thread; (3) slugs composed of oily lint trapped in the shed; (4) spots caused by lubricant leaking from a bearing; (5) oil smears from the hands or tools of fixers and other workers, etc.

Since there are so many ways that oil can get on the cloth, there is no one rule that can be followed to prevent such stains. However, the stains can be kept to a minimum if all the personnel will observe a few simple precautions, such as:



A typical example of a lump of oil-soaked waste blown from a bearing cap well and into a warp. Loom cleaners should either wipe out such areas or use a large wiping cloth as a backstop for the air jet, holding it close enough to the working area to trap any such blobs against the cloth.

1. Have preparatory departments break out all oily threads and slugs that appear in the various processes.

2. Check boxes and bags for oil spots and oily waste before filling is placed in them.

3. Instruct fixers and oilers in the correct way to lubricate machinery.

4. Don't lay wrenches or other tools on cloth, warp, or filling.

5. Don't tie a knot in the yarn or handle it with dirty or oily hands.

6. When cleaning a loom with compressed air, don't point the hose nozzle toward an open bear-

J. Ralph Clark of Louisville, Ky., won the kink contest that ended December 15, 1959.

The judges awarded him the $100 prize for his method of repairing sliver cans, a kink that will appear in an early issue of TI.

The current contest ends April 15, so get your entries in right away. Contest rules are on page 151.

Mr. Clark

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ing—whenever possible, direct the stream of air away from the warp or cloth.

7. Have the weavers and smash hands inspect the cloth and warp regularly.

8. Watch for oil leaks from overhead shafting or from the floor above.

9. Cover the warp of adjoining looms when a loom is being cleaned with compressed air at warp-out.

10. Store warps, filling, and cloth where they will not be exposed to oil or grease or keep them well-covered with waterproof paper or cloth.

11. Have the cloth inspectors or graders send a report to the weave room at once when recurring oil stains are found in a cut of cloth.

If all concerned are properly trained and supervised in the control of oil stains, the second-quality cloth caused by this defect can be held to a minimum.

CONTRIBUTOR No. 1225

Is the throwing business doomed?

THE EDITORS:

Through the untimely death of my wife's father, my wife and I inherited a throwing plant. My wife's mother operated the plant, through the years immediately following her husband's death, during the most unfortunate business era of 1954-1957. She met with most discouraging results.

In December, 1957, the mill was closed and all employees laid off, with the reasons for closing being given as: (a) since most manufacturers knit directly from the pirn, man-made fibers no longer require throwing; and (b) the throwster is put in the position of the declining middleman.

My request is in the nature of soliciting some advice from one who keeps up with the latest developments in the textile industry. Pointedly, I should like to know the answers, if indeed there are any, to some of the more pressing questions:

1. Is the throwster, in fact, in the position of the declining middleman?

2. Is there enough throwing business, presupposing that the mill is managed sufficiently, to operate profitably?

3. Is it true that throwing is no longer required of man-made fibers by knitters that do not have any throwing facilities?

4. Is it feasible to expect that knitters will return to having yarn thrown by commission throwsters in a more favorable economic climate such as we are experiencing now?

5. In which fiber or yarn is there most hope for a profitable commission throwing business—is there a possibility of diversification and going into several yarns or fibers?

6. What suggestions do you have as to modernization, so that the mill may be operated profitably?

The mill is equipped with one-pound and one-half pound uptwisters, a boiler for setting Helanca yarn, and adequate test and storage facilities.

I know these questions are rather general to say the least, but without more specific knowledge of the throwing business, it is rather difficult to present the problem more accurately. Suffice it to say, here we are with a textile mill not operating and depreciation and obsolescence setting in at a rapid pace . . .

CONTRIBUTOR No. 1226

(We submitted the request to an expert on throwing, and his reply follows.—The Editors)

THE EDITORS:

It is unfortunate that CONTRIBUTOR No. 1226 did not divulge the location of his throwing plant, for some of the answers depend upon the plant's location. In giving my opinions, I am replying to each question in the order in which it was asked.

1. I am not sure what he means by "the declining middleman," but I assume he refers to a commission throwster. I believe the commission throwsters are finding profitable business much more difficult to get, but I do not believe they will be eliminated.

2. If a throwing plant is managed efficiently, and *if it has modern equipment,* I believe it can operate profitably if it is in a favorable location, both from the standpoint of a suitable economic and labor climate and from the standpoint of location, by which is meant being not too far away from its customers.

3. While it is true that throwing is no longer required on some synthetics, particularly filament nylon, there is still a market for throwing special yarns for knitters, and there is always the possibility that style changes may force knitters back into thrown yarns. Also, much interest is being shown

Kink Contest Rules

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance, and the $100 award will be made to the winner as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1960.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.

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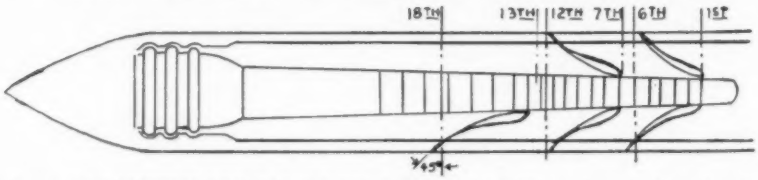

The first two loops of BAXTER'S NYLON SHUTTLE SPRING-LINE are inserted in the shuttle wall at a point opposite the 6th ring on the quill. The holes for the loops are drilled in opposite shuttle walls 1/4" from the top and bottom at an angle of 45 degrees. Let these loops extend to the first ring. The second set is placed opposite the 12th ring with the loops extended to the 7th ring. A single loop is placed at the 18th ring to reach the 13th. Install in keeping with twist.

Vary these suggestions to your ideas and your own special requirements.

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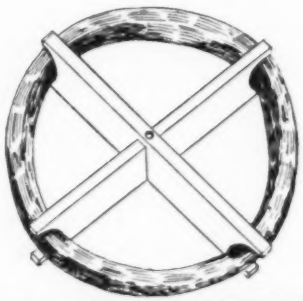

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by knitters in the several textured yarns.

4. I do not know the exact meaning of this question, but it is of course true that, in periods of good business, knitters undoubtedly have more yarn thrown outside, particularly those knitters which have throwing plants of their own but not of sufficient capacity to handle boom production.

5. For a commission throwster to survive, my opinion is that he must diversify and must have modern equipment of different types to meet changing demands of his customers. This means that a successful throwster today must have more equipment than he will use at any one time, but he must have it in order to get business of various types when it is available.

6. This question is too broad to be answered in a letter. The only suggestion I can offer is that CONTRIBUTOR No. 1226 call in a recognized consulting firm to look over his plant and make recommendations.

While he gives very little information, I would say that his uptwisters are not competitive. While one-pound uptwisting can be competitive on some fine-denier filament yarn, the half-pound machines are distinctly obsolete.

He does not mention having ring twisters. A commission throwster certainly cannot compete today without such equipment.

Since he mentions Helanca yarn, I presume he has made it by the conventional method, which includes a large number of steps. He certainly cannot compete with modern equipment, such as Fluflon and Superloft machines, where the stretch yarn is made in one operation.

There is one definite hope for the commission throwster. If crepe yarns "come back," and there are always rumors that they will, the throwster will definitely be in business. This is a matter of styling and no one can say when or whether crepes will return.

Another market which is just opening up but which will undoubtedly grow into sizable business, is the weaving of textured yarns for dress fabrics. If such business develops as now indicated, there will be a tremendous shortage of throwing equipment, particularly in the false-twist method of making stretch yarns.

I regret that my answers must be rather sketchy, but it is very difficult to offer suggestions about a plant without knowing more about it. I should like to repeat my suggestion that he call in a reputable consulting outfit.

CONTRIBUTOR No. 1227

About those cards with two sets of flats

THE EDITORS:

I notice in "Who Can Make It" in the August, 1959, issue, p. 167, that CONTRIBUTOR No. 1169 suggests a card with two sets of flats. I know that an English firm made a few cards with two sets of flats (similar to the one described) between 1880 and 1890, and that the firm also made another model card on that principle in 1904. There is also a firm in the Far East who makes a card with two sets of flats as described.

The arrangement can be troublesome because there are two sets of flats to grind, set, and maintain and two driving motions and two grinding motions to be kept up.

The control sheets (knife plates) are also troublesome and awkward to set, and the exhaust fan described would be useless as the surface air from the cylinder would throw itself and the fiber into the ducting. The result would obviously be a cloudy web. The knife plate between the two sets of flats could be particularly troublesome, for (depending on the direction the flats move) it could control the loading, the amount of strips, of both sets of flats.

JAMES K. CLEGG
(England)

(Mr. Clegg is author of the textbook, "Practical Cotton Carding." —The Editors)

JUST 15 MORE DAYS

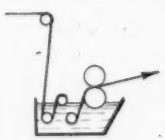
until TI's Dec. 15—April 15 Kink Contest closes. It's an easy way to make some extra money, and the winner gets a bonus award of $100 cash. See page 151 for the contest rules.—The Editors

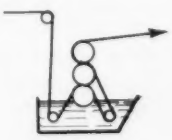
Resin padding methods

THE EDITORS:

Here are three methods of impregnating cotton fabrics with resin. Although I have had experience with all three methods, I have no preference and have been unable to detect advantages of one method over the other from the standpoint of quality of finishing.

Of course, from the standpoint of maintenance, perhaps there are advantages in Methods 1 and 2; and Methods 2 and 3 would appear to offer more thorough penetration and saturation.





I welcome discussion from resin finishers who may have preferences for methods of impregnation.

CONTRIBUTOR No. 1213

Use cards to match yarn colors

THE EDITORS:

One of the most difficult things in the cotton dyehouse is the matching of colors in different dyelots. Even more disconcerting is the difference of shade between the skeins or even within one skein in the one lot. We had trouble of this nature and in order to keep a continual check on our dye lots, we arranged to examine a skein from each lot.

The checking was done by wrapping the yarn closely around a blackboard. The trick for best results is to handwind the yarn very closely, one coil snugly touching another. If there is any noticeable variation in the shade it will, without fail, be shown on this blackboard. The board need not be of any particular size as long as it is suitable for winding on.

CONTRIBUTOR No. 1157

Knitting needles need better packaging

THE EDITORS:

All too frequently when we receive a package of new knitting needles we find rust spots on some of the hooks, latches, or butts. And rust at these three places can and does cause seconds. Of course we remove the rusty ones as we inspect the needles and find them. Even so we sometimes fail to see the rust only to find later that holes are appearing in the fabric as a result. Or if holes do not appear, the fabric lacks necessary smoothness.

We do not know just when the rusting begins, whether at the factory, in transit, or after the needles reach us. But we do know we get needles in the knitting room that give us trouble.

We are of the opinion that if manufacturers would package the needles individually in a moisture-proof membrane such as polyethylene that they would not rust and would be much easier to pick up with the fingers as they are selected to go into the machine. A few grains of a desiccant packed with each would be double assurance that the needles could then be kept in almost any condition of moisture without damage.

One of the present difficulties is that of keeping out the rust after the needles have been opened in the knitting room. Each time one is handled or touched with the fingers, as in removing one from a pack, or as they are exposed to knitting room humidity, rust sets in. Such individual packaging should eliminate both hazards.

CONTRIBUTOR No. 1218

Competitors set quality control pace

(The following is adapted from an address a company executive made before a group of supervisors within his mill.—The Editors)

EVERY phase of our manufacturing process, from the raw cotton to the finished goods, is involved with quality control. Type of cotton, hank roving, turns-per-inch in spinning and twisting, sizes of yarn, single and ply strength, and so on, are factors to be carefully checked and rechecked. We do all this to effect the manufacture of the best of finished products.

In our particular plant we have set up a special department to coordinate quality control methods, and we have set up certain standards for the manufacturing of each of our many articles. We call it our quality department.

Faults do crop up in our product —there are few departments in the plant that do not receive complaints of some kind at one time or another—and complaints from the testing laboratory, or from any department, are not sent to "get something on you," the supervisors, but to enable you to correct the faulty condition as soon as possible.

After all, it is only by your complete cooperation that the aim of every ambitious supervisor is realized: the largest production of the best quality, at the lowest cost.

When there are defects traced to your section or department, they are part of *your* headaches. *You* are the one to correct those faults occurring in *your* department, or to keep *your* workers on the alert in preventing faults.

A quality department can set standards that are aimed toward keeping faults at an *irreducible minimum*, but it is you who must direct the campaign for reducing those faults. I know from experience that it is an everlasting battle.

Our quality department has set up attainable standards for each type of fault in our plant. We also have a system of reporting the faults to the testing laboratory which thus becomes the recipient of all the quality complaints in our plant.

Why? Let us look for a moment at excessive faults found during hank examination. If the examination is most thorough and the faulty work is broken down into mixtures, spinning doubles, soft twist, hard twist, twisting doubles, and so on, an idea of the frequency of each type of fault can be gained.

And a report of such findings sent to you, to the plant superintendent, and to the department managers enables you supervisors to get after the trouble sooner than you could if you had to wait until the information reached you from the final inspection.

True, by then the damage has been done. But, armed with the information as to what faults are predominant, you are in an excellent position to concentrate on those. And, of course, any reduction of these faults will improve the quality of the product.

There are other faults to be reported to the quality department, faults not directly connected with

the product itself. I feel that the general appearance of our goods, including the packaging and other parts of the put-up, are factors that influence the salability of our material.

And, now, about salability, the final point. Our company, large as it is, really has some pretty severe competition. In fact, we have a list of firms that are in the same line of manufacturing as we are, and the list is long.

If you don't believe that the competitors can turn out a mighty nice product and attractively put up, just look around the counters of any large department store. After you've looked over the competitive articles carefully, you won't be quite so ready to brag that we are the only people who can turn out a first-class article.

CONTRIBUTOR No. 1232

"Why we spin on the heavy side and like it"

(This is the second reply to Ralph Lathem's article "Do You Spin on the Heavy Side?" that appeared in the Nov., 1959, issue, p. 125. See the Feb. 1960, issue, p. 189, for the first reply.—The Editors)

THE EDITORS:

We take issue with the author's contention that a 10,000-spindle mill loses $21,000 per year by spinning on the heavy side. By way of rebuttal we have prepared the following example, using hypothetical figures so as not to represent any one mill's production.

Also, we have assumed that every pound of cotton that is not finished as yarn is sold as waste. We know that this is not entirely true, but for purposes of comparison it is all right. Of course, we sell our yarns on a weight basis instead of on a theoretical or yardage basis.

General Data

Spindles involved	10,000
Yarn count, standard	30s
Contraction	5%
Front roll speed (rpm)	160
Machine efficiency	97%
Waste, spinning to packing	1.5%
Recovery	72%
Cotton cost (per pound)	$0.355
Labor and overhead cost per 120 hr	$8550.00
Waste selling price per pound	$0.1225
Net selling price of yarn per pound	$0.7498

Production Calculations

Hank production for 120 hr @ 100%:

$$\frac{160 \times 1 \times 3.1416 \times 60 \times 10{,}000 \times 120}{36 \times 840} = 1{,}196{,}800$$

Hank production corrected for waste, efficiency, and contraction:

1,196,800 x 0.97 (eff.) x 0.985 (waste) x 0.95 (cont.) = 1,086,308

Income from Spinning 30s

Actual hanks produced	1,086,308 (1)
Pounds per hank—840/(30 x 840)	0.0333 (2)
Pounds produced (1) x (2)	36,174 (3)
Cost of cotton (36,174/0.72 x $0.355)	$17,835.56 (4)
Income from waste sales* (14,067 lb x $0.1225)	$1,723.21 (5)
Total cost of cotton in yarn	$16,112.35 (6)
Total cost of labor and overhead	$8,550.00 (7)
Net sales ($0.74980 x 36,230)	$27,165.25 (8)
Earnings (8) - (6) - (7)	$2,502.90 (9)

*The difference between the 50,241 lb of cotton bought and the 36,174 lb of yarn realized from it, or 14,067 pounds. This is obtained by dividing 36,174 by 0.72 (recovery). Waste is determined similarly in the next two steps.

Income from Spinning 30.25s at Same Speed

Actual hanks produced	1,086,308 (1)
Pounds per hank—840/(30.25 x 840)	0.0330 (2)
Pounds produced (1) x (2)	35,848 (3)
Cost of cotton 35,848/0.72 x $0.0355	$17,679.71 (4)
Income from waste sales—13,954 x $0.1225	$1,709.37 (5)
Total cost of cotton in yarn	$15,970.34 (6)
Total cost of labor and overhead	$8,550.00 (7)
Net sales—($0.74980 x 35,848)	$26,878.83 (8)
Earnings (8) - (6) - (7)	$2,358.49 (9)

Income from Spinning 29.75s at Same Speed

Actual hanks produced	1,086,308 (1)
Pounds per hank—840/(29.75 x 840)	0.0336 (2)
Pounds produced (1) x (2)	36,500 (3)
Cost of cotton—36,500/0.72 x $0.0355	$17,996.37 (4)
Income from waste sales—14,194 x $0.1225	$1,738.77 (5)
Total cost of cotton in yarn (4) - (5)	$16,257.60 (6)
Total cost of labor and overhead	$8,550.00 (7)
Net sales—$0.74980 x 36,500	$27,367.70 (8)
Earnings—(8) - (6) - (7)	$2,560.10 (9)

Summary

Money earned/120 hr spinning 29.75s	$2,560.10
Money earned/120 hr spinning 30.00s	$2,502.90
Money earned/120 hr spinning 30.25s	$2,358.49

By spinning ¼ number heavy instead of ¼ number light, the plant earns $201.61 more per week, or an earnings increase of 8.55 per cent.

CONTRIBUTOR No. 1231

THE EDITORS:

When I developed the idea I was thinking in terms of an integrated mill weaving the yarn into a fabric. Since cloth is sold by the yard, the lighter the yarn the more yards of fabric per pound and the greater the return per pound of yarn used. In a sales yarn mill, the opposite is true, and it is to the supplier's advantage to spin yarn on the heavy side when their customers will accept it.

I wish to thank CONTRIBUTOR No. 1221 and CONTRIBUTOR No. 1231 for their comments, and to say "sorry" for not having made the approach absolutely clear.

RALPH C. LATHEM

Ludell Heat Reclaimer Engineered to Save the Equivalent of 46,800 Lb. Boiler at New Carlisle Finishing Plant!

The management team and consulting engineers for Cone Mills investigated the fuel savings and operational improvements possible through effective re-use of heat from waste water. They were determined that the new finishing plant at Carlisle, South Carolina, should incorporate this modern, money-saving technique. As a result, the Ludell System of heat recovery was specified, designed, and built into the new plant. This system has the capacity to deliver the equivalent of a 46,800 lbs./hr. boiler.

At the Carlisle Plant, the Ludell System is guaranteed capable of raising the temperature of 1260 gallons per minute of incoming fresh water from 40° to 112° F, cutting the cost of heating water by 50%. And the Ludell System helps when it's needed most . . . in cold weather months when boilers operate to capacity, and raw water temperature is lowest.

The temperature rise guarantee applies to every day operation . . . not just for an initial reading when first installed. Because of its automatic self-cleaning feature, the Ludell System further guarantees non-clog performance, thereby eliminating costly cleaning and maintenance.

FREE on-the-spot survey! Planning to build or remodel? Want to convert waste into profit? Consider the savings Ludell can bring you in lower fuel bills and reduced boiler load when your need is greatest. A *free survey* is yours — at your plant — by Ludell engineers. Write today — there's no obligation.

Ludell *Manufacturing Company*

5200 West State Street • Milwaukee 8, Wisconsin

"Only Ludell guarantees continuous day in day out rated heat reclaiming performance. Check on Ludell for savings in your operation."

NEW PRODUCT PARADE

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.

Offers high speed spinning at lower investment

Whitin Machine Works is now marketing a standard model (as compared to its deluxe or premium model "Piedmont") cotton system spinning frame. Called the "Standard," the machine provides high production spinning at low initial and operational cost.

Among the construction features of the frame, which is sold as a complete unit with motor, vacuum waste collection system, and umbrella type creel, are the following:

1. Width is 27", permitting maximum utilization of floor space. In many instances 25 to 30 per cent more spindles can be installed in the same space occupied by present conventional spinning.

2. Waste collector system is an integral part of the machine design, permitting most efficient functioning and utilization of space.

3. Conventional four-spindle tape drive with antifriction tension idler pulleys and reinforced 8" cylinder.

4. Aluminum sleeve, antifriction, center-base spindles with 1" whorl permit reduction in cylinder speed. Brakes are provided on spindles for gauges 3½" and above.

5. Roll stand is inclined at 45°, equipped with grease fittings for lubrication of the front bottom rolls, and provided with the Whitin STA top arm weighting arrangement and ball bearing top rolls.

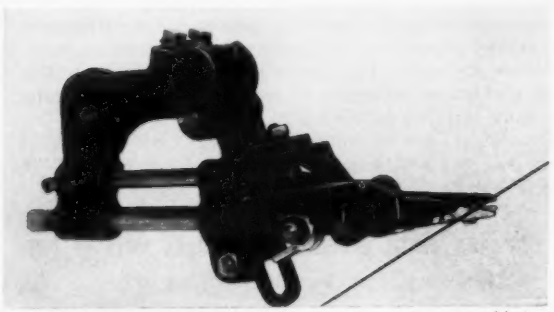
6. Single balloon control rings, one for each spindle, are mounted on a bar running the length of the frame. They are lowered to the bottom of the traverse easily and quickly for doffing by turning a crank at the head end.

The frame is manufactured in the following gauges: 3", 3¼", 3½", 4", and 4½", with conventional spindle maximums for each gauge. Traverse is up to 11 inches.

Whitin Machine Works, Whitinsville, Mass.

Do you want more data? Write ☁ or use card on page 179; list C-101

Prevents jerked-in filling caused by gripper



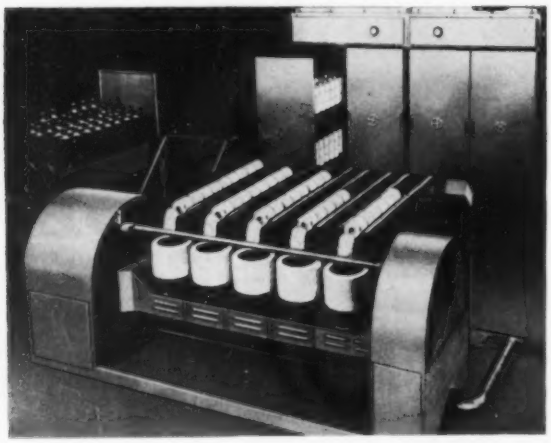
Retainer plate is cut away to expose gripper and cutting blades.

A new filling holder and cutter, Series 8300, for looms is an effective solution to the problem of seconds resulting from drag-ins and sidelines caused by wear or lag of holding blades made of fiber board. Differing in action and material from conventional thread cutters, it will help increase production, improve quality, eliminate downtime, and accommodate all types and sizes of filling (cotton, rayon, glass yarns, etc.) without any adjustment.

The hardened steel gripper holds the filling firmly in a straight line, before and during the cut. Only one factory-adjusted setting is necessary for the lifetime of this part for correct opening and closing of the gripper and curved cutter blades in exactly the proper sequence.

H. F. Livermore Corp., Allston Sta., Boston 34, Mass.

Do you want more data? Write ☁ or use card on page 179; list C-102



Quick dryer for dyed yarns

The Scholl "Secomat" dryer for all types of dyed yarns is a two-unit, semi-automatic machine featuring average drying times which range between ½ hr for certain filament yarns to 2½ hr for spun rayon.

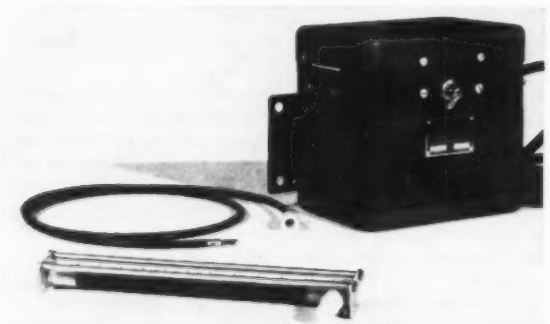
The first unit consists of centrifuges for moisture extraction, which are automatically loaded and unloaded by conveyor chutes. The second unit completes the drying process by forcing steam heated, dry air through each spool of yarn, from the inside to the outside.

Freshly dyed spools of yarn are placed in the conveyor chutes which are individually driven to provide vibratory action that moves the spools to the centrifuges where they are spun dried at 6500 rpm for 30 seconds and are then deposited in a lower layer of conveyors for removal to the hot-air dryer where the process is completed. A special humidity test device checks the moisture in the spools on each spindle and shuts off the air supply when the yarn reaches a preselected comparative dryness. The remainder of the yarn in the drying chamber continues to receive air treatment until the same dryness is reached.

Cosa Corp., 405 Lexington Ave., New York 17, N. Y.

Do you want more data? Write ◂ or use card on page 179; list C-114

One new static eliminator bar does work of two



Components of Model 100-1 static eliminator. Bar is in foreground.

A new line of "compact" static eliminator bars is available. Furnished with either one or two rows of emitting points, the bars can be installed on many textile processing machines including warpers, drawing frames, and cards.

The Model 100 "Dual Point" (two rows of emitting points) static eliminator doubles the amount of discharge from a single bar and increases breadth of scan. When mounted three inches from the material to be discharged, the width of scan is five inches.

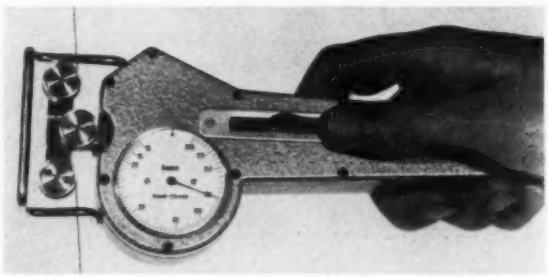
Especially designed for creels, the "Creel Bar" static eliminator, with two rows of emitting points diametrically opposed, scans three inches in each direction. Each bar serves two rows of ends, reducing by one-half the number of bars normally used.

Strict control of current through a patented resistance principle gives high ionization without a shock hazard; permits multiple bar installations with a single power unit.

The Takk Corp., Newark, Ohio.

Do you want more data? Write ◂ or use card on page 179; list C-115

Tensiometer offers constant yarn visibility



A new series of tension measuring instruments, manufactured by Hans Schmidt & Co. of West Germany and now available through a U. S. agent, includes a tensiometer that features front filament loading so that running filament is visible at all times, a thumb-operated ball bearing roller release to permit easy insertion and removal of material without stopping the manufacturing process, and a special guide bar to assure proper alignment of material prior to roller engagement which virtually eliminates filament breakage due to misalignment.

Nine available ranges permit the monitoring of tensions from 3 grams to 10 kilograms to an accuracy of 1 per cent. Through the application of special-purpose rollers, the instruments can be used for tapes, bands, and warp threads.

Electromatic Equipment Co., 175 Fifth Ave., New York 10, N. Y.

Do you want more data? Write ◂ or use card on page 179; list C-116

Wool fiber length rapidly, accurately measured

The length of up to 500 wool fibers an hour can be measured with a semi-automatic machine which was developed by the Wool Industries Research Association of England and is available to mills in this country through a U. S. agent. Designated the WIRA Fiber Length Machine, the instrument may be used for determining the length of wool fibers at all stages of manufacture (see TI for Feb., 1960, p. 157), and it is suitable for measuring man-made fibers.

The machine overcomes observer differences and is much faster than hand measurement by the two-forceps

method. Rate of measurement varies with the material and the sampling method used.

A technician leads a single fiber into the machine, holding it at one end with forceps during measurement; the instrument automatically measures the length of the fiber and assigns it to a length group; then by a small movement of the tip of the forceps this length is automatically recorded on a bank of numbered disks.

Stellamcor, Inc., 10 East 43rd St., New York 17, N. Y.

Do you want more data? Write ◂ or use card on page 179; list C-117

Makes 2 doz seamless stockings in 8 hr

Space, time, and production advantages are provided by the Lonati twin-feed ladies' seamless hosiery knitting machine, an Italian-made machine which is now available through a firm in this country. Equipped with a 3¾" cylinder containing 400 needles or more, the machine will produce two dozen stockings in eight hours.

Supplied with pneumatic take-down, electric stop motion and warning light, and individual motor drive, the machine comes complete with devices to obtain: (1) plain and mesh fabric in various designs; (2) automatic inturned welt; (3) fancy garter band; (4) Y heel; (5) gusset toe; and (6) under toe linking.

National Industrial Machinery Corp., 350 Fifth Ave., New York 1, N. Y.

Do you want more data? Write ◂ or use card on page 179; list C-118

Small batch washer-extractor saves time, labor, space

The Cascadex combination washer-extractor washes all types of fabrics thoroughly and quickly and then efficiently removes the water from the washed goods. Labor and time are saved by combining the two operations; space is saved by combining two machines in one.

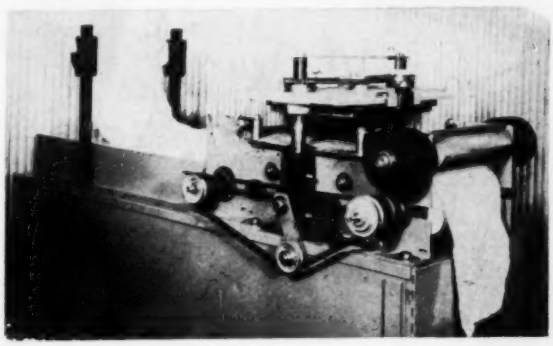
Goods are washed in a rotating stainless steel cylinder, speed of which is increased after the washing cycle is completed to remove water by centrifugal action. During washing, the cylinder reverses automatically to produce thorough washing; during extraction it rotates in one direction only.

Controlled by pushbuttons, the washer-extractor is available in two sizes: the 32" x 24" model has a capacity of 50 lb (dry weight); the 40" x 30" model, 100 lb.

The American Laundry Machinery Co., Ross & Section Aves., Cincinnati 12, Ohio.

Do you want more data? Write ◂ or use card on page 179; list C-119

Lab model of needle felting machine



The Hunter "Fiber/Locker" laboratory felting machine for experimental and development work on nonwoven fabrics operates on the needle felting principle. Needleboards of the lab model are exact reproductions of those used in the full-size production model needle felting machine made by the company.

Needle penetration through the batt is fully adjustable; also the rate of advance of the stock through the unit. Results obtained with the lab unit are completely duplicable on full-size production equipment. Use of it for set-up purposes frees production units for full-time operation on production runs.

The machine punches barbed needles into the batt or lap of natural or synthetic fibers. Barbs on needles engage fibers and push them through the mass of material to interlock the individual fiber strands with each other.

James Hunter Machine Co., 8 Main St., North Adams, Mass.

Do you want more data? Write ◂ or use card on page 179; list C-120

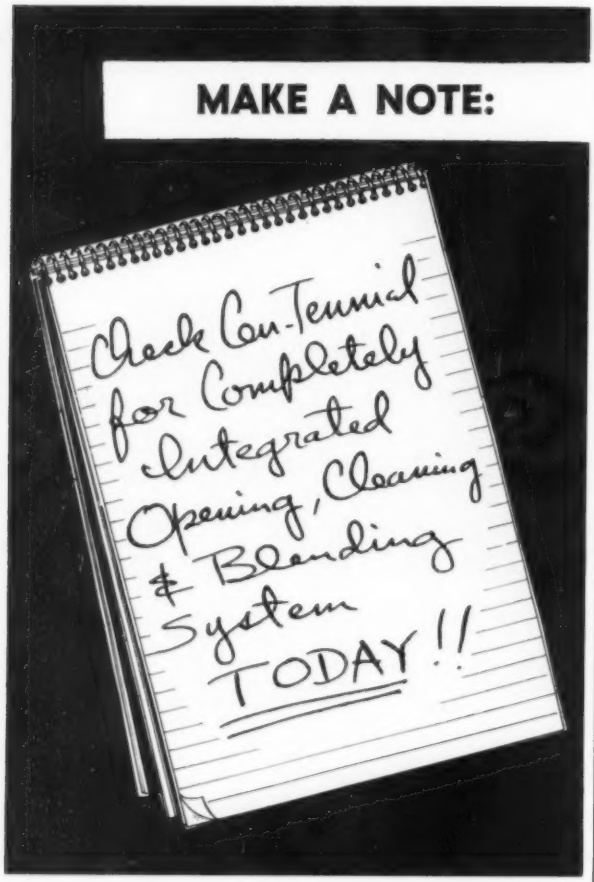
Plate magnets protect many processing machines

Because of the simple design of Magni-Power Model D-2 permanent plate magnets, they are easily adapted to equipment for processing cotton, wool, man-made fibers, and waste to protect machines from tramp metal and prevent fires which result from sparks created by tramp metal striking machine parts.

Typical applications of the maintenance-free flat magnets, which utilize powerful Alnico V "D" magnets mounted on steel pole plates and protected with stainless steel to safeguard against shorting or distorting the magnetic flux field, are as follows: cotton system mills —discharge chute of Superior cleaners, sorting tables ahead of feeder apron on pickers, cleaners, etc., inclined slope of Gyrator cleaners, discharge end of willows; woolen and worsted mills—over or under card web to remove fine wire in carding operation, in bottom of trap leading to waste machine ahead of mixing picker; waste processing—above spiked apron on cleaning or blending feeder; above or below auxiliary feed table ahead of waste machine, on slotted aprons feeding thread breakers.

Magni-Power Co., Wooster, Ohio.

Do you want more data? Write ◂ or use card on page 179; list C-121



When you make a note to check with CEN-TENNIAL, you've begun to make money for your mill.

CEN-TENNIAL provides "One Stop" service for Opening, Cleaning and Blending Equipment . . . Machinery that enables you to process machine-picked, gin-cleaned cotton in the most efficient manner.

Ask about the CEN-TENNIAL Cen-Tri-Vac used in conjunction with the CEN-TENNIAL OPENER CLEANER. This combination is especially designed to remove pepper trash . . . a new concept for your opening room from a reliable, old line company.

Performance data and mill testimonials available on request.

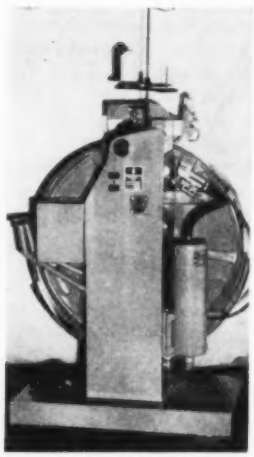
OPENS — CLEANS — BLENDS

CEN-TENNIAL HAS BEEN MILL-CONDITIONING COTTON FOR MORE THAN 75 YEARS

"FROM FIELD TO FABRIC"

CEN-TENNIAL
COTTON GIN COMPANY
COLUMBUS, GEORGIA

Machine for automation of grey room sewing



With the new Model MF automatic butt seam grey room sewing machine an average production rate of better than 200 forty-inch seams per hour may be obtained. Designed for continuous operation, the light weight and portable machine features automatic control of a number of steps in the seaming process and simplified alignment of the goods to insure that seams are sewn straight and parallel to the filling.

The number of stitches in the selvages of each seam are automatically doubled, thus reinforcing the seam at its weakest point. Each completed seam is automatically separated from the next, trimmed pieces of cloth and excess threads or "tails" between seams are automatically disposed of, and the completed seam is automatically stripped from the feed wheel which operates at a speed of 200 inches per minute.

Seams are sewn at full fabric width to prevent scrimps, puckers, and mismatched selvages. Merrow 60D3B or 60ABB butt seam heads are utilized.

Birch Brothers, Inc., Somerville, Mass.

Do you want more data? Write ◂ or use card on page 179; list C-103

Combs high and low grade cotton at up to 180 npm

Among the benefits to be derived from the Rieter Model E7 cotton comber are: higher production, better sliver quality, simplified adjustment, easier servicing and operation, longer life with lower maintenance costs, and wider range of application with higher flexibility. Because of the reduced minimum setting distance between nipper and detaching rollers (19/32"), lower grades of cotton with shorter staple may be combed successfully with the machine.

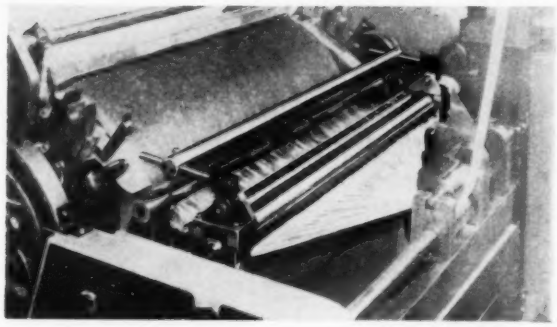
Following are construction features of the machine: (1) combs heavy laps at up to 180 nips per minute; (2) continuous lap feed with tension compensation and a choice of feeding during the backward or forward swing of the nipper; (3) greatly simplified nipper support and special nipper motion, together with entirely new circular combs and interchangeable segments; (4) improved detaching and piecing-up mechanism with

pneumatic weighting of the detaching rollers; (5) central setting of nippers; (6) electric monitoring with automatic stop motion and signal system; (7) efficient suction clearing with dust-free removal of noils.

American Rieter Co., Inc., West Caldwell, N. J.

Do you want more data? Write ◆ or use card on page 179; list C-104

Card attachment crushes foreign matter in cotton



Upgrading of cotton, fewer ends down, less yarn breakage at the loom, and production of a clearer or more even textured fabric are advantages to be derived with the new Crosrol Cotton Web Purifier and Spinning Improver Device, an attachment which is mounted on the card frame between the doffer comb and calender rolls.

Trash and seed and leaf particles which remain in the stock when it is combed from the doffer are crushed by the device and fall out during subsequent processing.

The attachment consists of a pair of precision ground, hardened steel rolls between which the full width web passes.

Atkinson, Haserick & Co., Inc., Box 509, Framingham, Mass.

Do you want more data? Write ◆ or use card on page 179; list C-105

For better control of seamless stocking quality

A ladies' seamless hosiery heel measuring member has been added to the Volumet hosiery testing device to provide more complete control over stocking irregularities. It supplements the original toe measuring device, since it has been found that heel dimensions can differ from that of the toe even when knit on machines employing the same stitch regulator for both parts.

To provide ample surface for the scale used to measure heel dimensions, the original spherically shaped heel ball has been replaced by an oval shaped member. The longer length of the new heel member does not affect the measurement of foot size because it simply fills in space formerly created by the tautly bridged fabric. The special scale, with graduations equally divided above and below the center heel line, makes heel measurement easy to read by just glancing at either edge of the heel reinforcement.

Joseph C. Cobert Associates, Concord, N. C.

Do you want more data? Write ◆ or use card on page 179; list C-106

For IMPROVED and SPEEDED processing ... with REDUCED WASTE

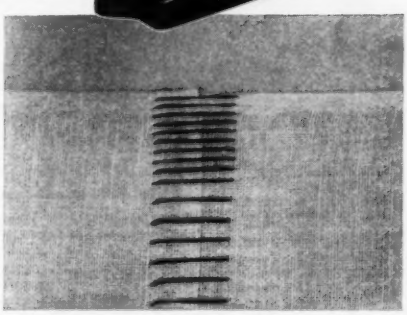
MERROW NOW OFFERS ... *IN A SINGLE MACHINE*

- ***WIDER STITCHING***

plus

- ***MULTIPLE STITCHING AT SELVAGES***

Style 60 Y3B
Butted Seamer



Some processors require a wide butted seam to eliminate "combing out" of coarse material under tension. Others, handling high count materials, need multiple stitching at the selvages for extra strength. Merrow now makes available a machine that fills **both** requirements.

The strong one thread seam (approximately 5/8" wide) is quickly and accurately formed by the high speed machine ... can be easily removed after processing. Result: improved processing ... higher production ... reduced waste.

Request complete information on this or other machines in the Merrow **complete line** of butted seamers.

TRADE MARK REG
The MERROW MACHINE COMPANY
2805 LAUREL ST. • HARTFORD, CONN. • U.S.A.

let's talk about...

Laurel HYDROCOP and 3B SOFTENER

These Laurel *quality* products have long beeen recognized as the leaders in the field of knitting yarn conditioning and lubrication. If you have not tried them on your yarns, check these advantages to see how you can achieve that "something extra" which will put your yarns well up front in the sales parade!

Laurel HYDROCOP and 3B SOFTENER

. . . lubricate the yarn and insure smooth running and even stitches with a resulting better garment.

. . . give a softer, better cone which reduces the number of pulls and sloughs off the cones.

. . . condition the yarn which results in a stronger yarn with less breaks.

. . . provide equally satisfactory results on natural, bleached or dyed yarns.

. . . cause no odor or color changes, and need not be scoured out of the goods.

. . . provide excellent results on all natural, synthetic and blended spun yarns (particularly cotton, wool, worsted, Cashmere and Orlon).

. . . are readily removed from the cloth in a regular scour or boil-off and will not interfere with any subsequent dyeing, bleaching or finishing process.

. . . are easily prepared for use and form stable emulsions which are applied to the yarn from emulsion troughs or any standard coning or winding machine.

Why not put these advantages to work for YOU? Write us today for generous samples and detailed working instructions. Our experienced representatives are also available to discuss your specific problems. Write TODAY while you think of it.

Should you prefer a blend of *these* two Laurel quality products, we recommend Laurel Softener 3BH. Sample on request.

Laurel Brand — OVER 50 YEARS OF SERVICE TO INDUSTRY

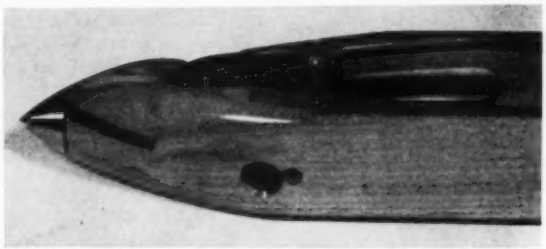
Laurel

SOAP MANUFACTURING CO., INC.

TIOGA, THOMPSON & ALMOND STS. • PHILA. 34, PA.

Warehouses: Paterson, N.J. Chattanooga, Tenn. Charlotte, N.C. Greenville, S.C.

Shuttle reinforced to prevent splitting



The Reinforced X D Shuttle has a vulcanized fiber reinforcing strip firmly inserted in the wood near the eye, to reinforce this section and overcome splitting. This feature is recommended for use in the #903 eye dogwood X D shuttle.

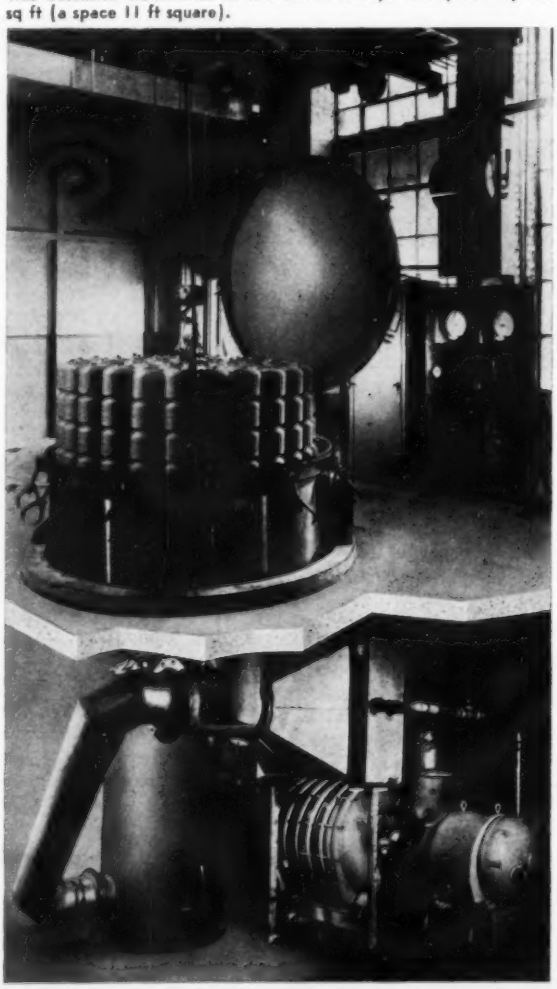
Southern Shuttle Div., Steel Heddle Mfg. Co., Greenville, S. C.

Do you want more data? Write ◂ or use card on page 179; list C-107

Compact machine speeds drying of packaged yarns

A new recirculating type Extractor-Dryer for packaged yarns speeds up the extracting-drying operation and requires half the space. Simplicity of design is another feature of the equipment which has a stainless steel pressure type kier with precision balanced cover. Installation can

This basement installation of the Extractor-Dryer occupies only 121 sq ft (a space 11 ft square).



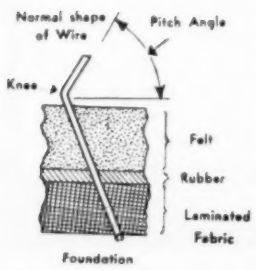
be made rapidly at low cost, and little maintenance is required.

The machine has a silent-operating, non-overloading blower with automatic control of air supply temperature to the yarn, and an automatic temperature recorder for air exhaust from the yarn. A pressure gauge shows resistance to flow. Air flow directional control is either manual or automatic. Machine shuts off at end of each cycle.

Turbo Machine Co., Lansdale, Pa.

Do you want more data? Write or use card on page 179; list C-108

Long-lasting clothing for woolen cards



Now available for use on any woolen system card is a rubber-and-felt foundation clothing which offers these advantages: (1) wire holds its pitch; (2) no high wires; (3) no creep, stretch, or blisters; (4) longer life—from two to seven times; (5) stripping interval can be increased and less strippings are produced; (6) less grinding; (7) rags and other foreign matter do not damage wire; (8) withstands up to 500 pounds tension on application; (9) no loose wires to shell out; (10) includes extra plies of backing for additional strength; (11) construction resists rusting.

Designated "R.F." Clothing, it has three distinctive physical features (see accompanying sketch): (1) a layer of red rubber is glued to the regular laminated foundation; (2) a layer of felt is glued to the rubber; (3) foundation is stitched with a lock stitch in several rows, lengthwise.

Davis & Furber Machine Co., North Andover, Mass.

Do you want more data? Write or use card on page 179; list C-109

New fibers and yarns

Blends of Zefran fiber for woolen system processing. Marketing of new blends of 100 per cent Zefran to meet the needs for versatile acrylic/wool blend apparel fabrics has been announced. One blend, called "W-2," has an average denier of about 2.5, comprises various staple lengths, and has an upper spin limit of 8 run. The "W-4" blend has an average denier of about 4.5 and has an upper spin limit of 6 run. Both have been especially developed to fit into existing processing and dyeing technology which is standard for wool. Maximum compatibility of Zefran and wool is achieved by using the new blends. Standard wool emulsions and machine settings are applicable.

Textile Fibers Dept., The Dow Chemical Co., Williamsburg, Va.

Do you want more data? Write supplier or use card on page 179; list C-201

Yarn designed for outdoor furniture. DLP 55, a new propylene fiber yarn, offers the following advantages for outdoor furniture manufacturers and weavers of webbing used in their chairs and cots: (1) it is colorfast; (2) it is stronger; (3) it has "controlled" resilience, providing the soft seat preferred by consumers and yet

SMOOTH OUT PROCESSING LOSSES

FREE-WHEELING®
EXPANDERS
VARI-BOW® and FIXED BOW

ELIMINATE ▶ WRINKLES
LOSS of WIDTH
DISTORTION

No need to "suffer-through" frequent periods of downtime in a vain attempt to correct processing problems.

You can literally smooth out your runs — your fabrics — by installing Mount Hope Free-Wheeling Expanders. These mill proven, corrective devices automatically protect cloth — smooth out wrinkles, keep it distortion-free, held at full width.

Mount Hope Free-Wheeling Expanders have many applications — are equally efficient whether used for the most delicate fabrics or heaviest materials. It takes but a moment to complete the coupon below. It could well prove a most profitable first step toward final solution to your problems. Why not do it today?

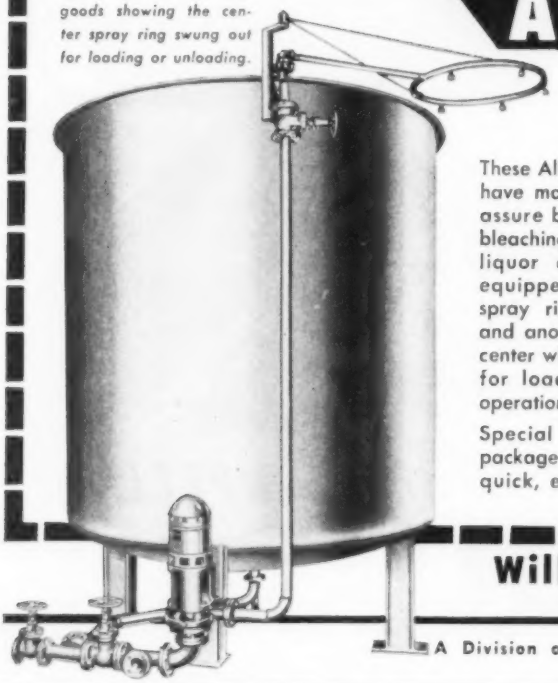
MOUNT HOPE MACHINERY COMPANY
52 Fifth Street, Taunton, Mass.
Plants at Taunton, Mass., and Charlotte, N.C.

Please rush your Free-Wheeling Expander Technical Bulletin TEB-58, containing description, principles of application, specifications and typical installations.

NAME _____ TITLE _____
FIRM _____
STREET _____
CITY _____ ZONE ___ STATE _____

Especially Designed for Bleaching KNIT GOODS

The Allen Kier for knit goods showing the center spray ring swung out for loading or unloading.



ALLEN Stainless Steel KIERS

These Allen stainless steel kiers have many advantages which assure better, more efficient bleaching. For finest bleaching liquor coverage, they are equipped with a stationary spray ring on the periphery and another ring covering the center which can be swung out for loading and unloading operations.

Special prefabricated unit-package construction permits quick, easy installation and lower cost maintenance.

SPECIAL ADVANTAGES

- **Lower cost non-stretch operation**
- **Positive temperature control**
- **Controlled circulation for efficient bleaching**
- **Smooth stainless surfaces eliminate rust, snag and rub marks — save chemicals**

Write today for circulars giving complete information on this as well as "Package Design" cloth kiers and kiers for absorbent cotton or cotton batting.

William Allen Son's Company
SHREWSBURY • MASSACHUSETTS

A Division of O. G. KELLEY & COMPANY, Boston 22, Mass.

from thread to cloth

SPRAYING SYSTEMS

SPRAY NOZZLES

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Take advantage of Spraying Systems' complete choice of nozzle types and capacities, to select the EXACT nozzle to do the job best. Typical nozzles include:

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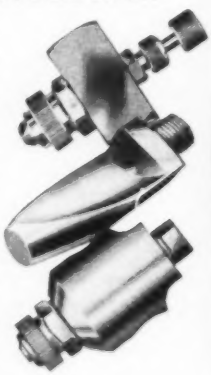
HUMIDIFYING NOZZLES—for efficient humidification and minimum maintenance. Complete units for low cost installation.



FOR COMPLETE INFORMATION write for reference Catalog No. 24

SPRAYING SYSTEMS CO.
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FULL TIME

Your capital can produce maximum profits only if you give it the chance for maximum turnover.

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resuming its original shape after load; (4) it has excellent resistance to chemicals—stains like nail polish and removers, foods, beverages, cosmetics, dry cleaning solvents, etc., will not harm it or cause it to change color; (5) good resistance to abrasion; (6) dimensionally stable; (7) good strength retention outdoors.

Dawbarn Brothers, Inc., Waynesboro, Va.

Do you want more data? Write supplier or use card on page 179; list C-202

Spun yarns of solution-dyed Acrilan fiber are now being marketed to the hosiery industry in a complete line of popular hosiery colors. Complete color fastness, clarity, and versatility are assured as the color in the fiber is an integral part of its chemical structure. Potential cross dyeing effects which may be achieved with these yarns will permit mills to reduce yarn inventories.

J. P. Stevens & Co., Inc., Yarn Sales Dept., New York, N. Y.

Do you want more data? Write supplier or use card on page 179; list C-203

Finishes and chemicals

For use where seam slippage is a problem is Atco SA, a finishing auxiliary that produces antislip properties on synthetic fabrics. An outstanding advantage of the product is that it can be used on the acid side with other finishing materials and dye fixing agents. It also builds hand, particularly when applied in the finish bath.

Metro-Atlantic, Inc., Centredale, R. I.

Do you want more data? Write supplier or use card on page 179; list C-204

Disperse dye printing process for polyester fabrics. Extreme fastness to washing, dry cleaning, and crocking, and elimination of steaming, together with faster continuous printing of premium quality fabrics are some of the advantages of the new "Tanalid Process" for printing of polyester fabrics with disperse dyes. Heart of the process is a product called "Tanalid Clear," which is described as a "dye-weld" as the chemical action is unlike that of the usual carrier. A wide range of disperse dyes is suitable for the process. Shades from pastels to navies and blacks are readily achieved.

Tanatex Chemical Corp., Belleville Turnpike, Kearny, N. J.

Do you want more data? Write supplier or use card on page 179; list C-205

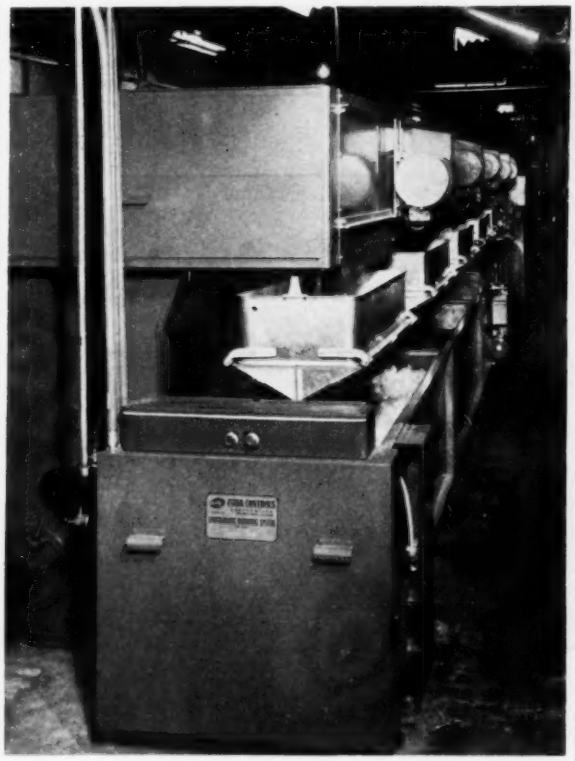
A new cationic softener, "Durafluff," gives fabrics a soft, silky hand with good drape together with increased abrasion resistance (up to 75% more than untreated fabric). It also improves sewability, reduces needle cutting, and increases tear strength. May be applied in dye becks, paddle dyeing machines, or washers.

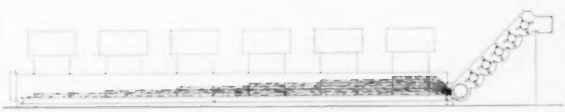
Manufacturer's Chemical Co., Inc., 930 N. Darien St., Philadelphia 23, Pa.

Do you want more data? Write supplier or use card on page 179; list C-206

Durable pigment print binder. A new metallic pigment binder for application printing on cotton, glass, and synthetic fibers, offers: (1) prolonged resistance to dry cleaning and laundering; (2) an unusually soft hand; (3) good luster unaffected by pigments or organic colors; (4) non-discoloration on aging; (5) non-tarnishing of metallic powders by perspiration; and (6) complete stability after incorporation of the metallic powder. Called Morpatex 50, the product is supplied as a water extendable emulsion. It is an effective binder for gold, copper, or aluminum powders, and can be printed along with other colorants in practically the full range of dyestuffs. May be used on conventional printing machines, as well

BETTER BLENDING by WEIGHT CONTROL . . . .





1. Combine weigh pan dumps, ounce by ounce, in an accurate sandwich on a slow moving horizontal SYNCHROVEYER . . .
2. Cut vertical cross sections inch by inch through the sandwich with the fine pinned beater of the SYNCHROBLENDER . . .
3. The result from actual experience can be a 25% reduction in day to day variations, which means better yarn quality at higher plant efficiency.

No additional floor space, connected horsepower, or labor is required.

Inquiries about more complete details of this equipment. Call or write:

U. S. Sales Agents:

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3440 Augusta Road, Greenville, S. C.

FIBER CONTROLS CORPORATION

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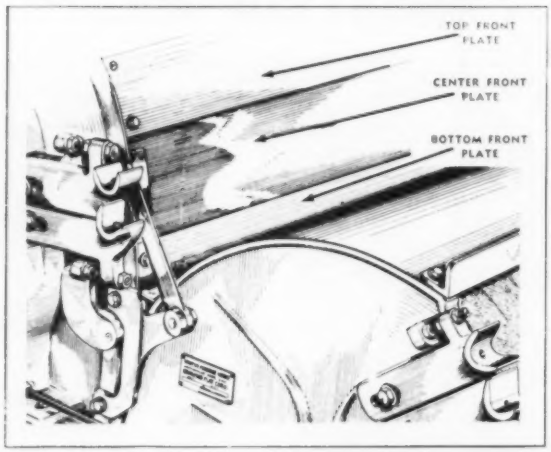
PRECISION MADE OF QUALITY ROLLED STEEL GROUND and POLISHED



Smooth, close setting CARD PLATES are necessary for good carding. ALL CARD PLATES should be checked periodically for smoothness and straightness. Rough plates are ineffective and costly in the Carding operation.

JENKINS manufactures CARD PLATES — standard or special — for all makes and sizes of cards. Ground and Polished — inside and outside. Straight and true to close tolerances.

Why not talk to a JENKINS METAL SHOPS representative about it? They are SPECIALISTS in Textile Metal Products.

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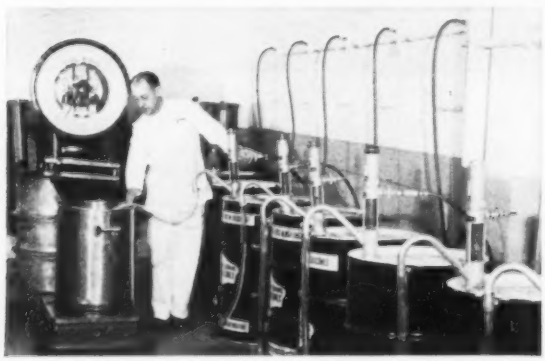

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Graco Fast-Flo Pumps reduce handling costs. They transfer measured amounts of different fluids direct from original containers. Ideal for batching, applying or mixing . . . fluids are transferred quickly and safely. Aids good housekeeping; eliminates contamination.

Send for more information about this amazing *Graco* Fast-Flo that's suited both for large and small operations. It handles materials as thin as alcohol, as thick as cookie frostings! Fast-Flo Pumps are also available in stainless steel. Send for free idea booklet!

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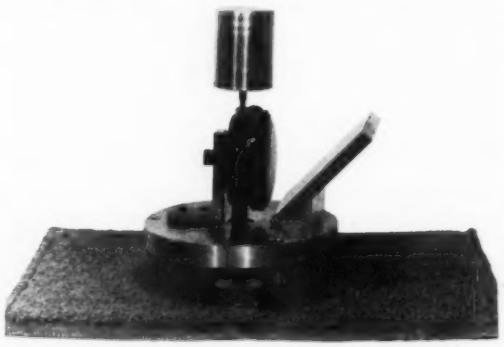
CARPET THICKNESS GAUGE



The Model CS-108 was designed to measure the thickness of laid carpets. The standard model has a one inch circular pressure foot. Other sizes will be furnished upon request. The three needle feet pierce the carpet until the points contact the floor. A stainless steel mirror allows the operator to read the dial indicator without kneeling.

Folders and price upon request

As our name implies we also welcome the opportunity to work on custom design and manufacture of testing instruments of all types for individual and general needs.

CUSTOM SCIENTIFIC INSTRUMENTS, INC.
541 Devon Street **Kearny, N. J.**

as hand and automatic screen printing machines.

Textile Dept., Morningstar-Paisley, Inc., 630 W. 51st St., New York 19, N. Y.

Do you want more data? Write supplier or use card on page 179; list C-207

A self-curing latex compound for carpet backing has exceptional heat and light-aging characteristics and will not stain carpet facings or cause odors. Designated Lotol L-4634, the product can be cured by merely drying, thus making high temperature curing unnecessary. In most applications there is no need to add plastic latices or hard resin extenders to improve hand. Used with ordinary fillers, it gives a high-strength, full-bodied hand with good resilience and resistance to deformation. It also has excellent tuft or pile lock.

Naugatuck Chemical Div., United States Rubber Co., 1230 Avenue of the Americas, New York 20, N. Y.

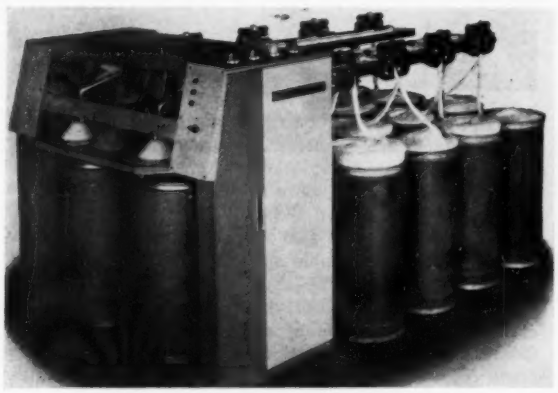
Do you want more data? Write supplier or use card on page 179; list C-208

A 50 per cent concentrate of silica sol containing 49 to 50 per cent silica by weight can be used as a surface treatment agent on glass fiber and for increasing fiber-to-fiber friction in textiles and for reducing soiling through filling of pores. The concentrate, which is an aqueous colloidal suspension of silica called Nalcoag 1050, provides substantial savings through reduction in storage, handling, and freight costs.

Nalco Chemical Co., 6216 West 66th Place, Chicago 38, Ill.

Do you want more data? Write supplier or use card on page 179; list C-209

Frame offers higher machine-operator efficiency



A two-delivery drawing frame for cotton system mills produces sliver at the rate of 500 fpm and provides advantages in frame efficiency and human efficiency. Manufactured by Societe Alsacienne de Constructions Mecaniques of Mulhouse, France, and sold and serviced by an agent in the U. S., the "Speed Drafter ER" frame has a drafting system that more closely controls short fibers, and it is constructed for simpler and faster maintenance.

Since the machine has two deliveries, frame efficiency suffers only 50 per cent of that of the conventional four-delivery high-speed drawing frames from down-time caused by sliver breaks, laps on rolls, etc. Also, operator efficiency is increased as patrolling distances are shortened (as much as 80 per cent) and considerably less physical effort is required for creeling and piecing up (it is necessary to move only one can of sliver to get to a can at the back of the frame, and an end in the

Moropol 700 was the first successful polyethylene emulsion and is generally credited with making wash and wear fabrics practical. It is still superior to similar formulae because it uses only the finest emulsifiers and contains no diluents or waxes. The millions of pounds of Moropol 700 already used have given complete satisfaction.

A Durable Finish Moropol 700 will not wash out in use—lasts for the life of the fabric.

Non-Yellowing Fabric will not yellow with age or heat. White goods produced in 1955 are still sparkling white.

Excellent Quality Control We pride ourselves that in the millions of pounds we have made the formula is so rigidly controlled that the same results can be secured at all times.

Higher Quality Fabrics Moropol 700 increases tear strength and seam efficiency. It eliminates embrittlement, increases abrasion strength, and improves crease recovery and hand. It is also excellent as a self-finish on sheetings and many other fabrics.

Moropol 700 is compatible with all types of aqueous resin formulations and always makes a smooth homogenous mix.

Write for full information today.

MORETEX *Chemical Products,* INC.
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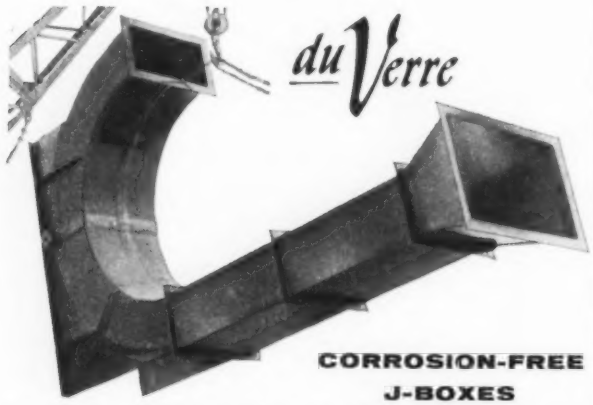

CORROSION-FREE J-BOXES INSURE CONTAMINATION-FREE GOODS

Every day, more textile men are discovering the many advantages of du Verre construction. J-Boxes, made from self-supporting resin bonded fiberglass, are **completely** corrosion-resistant—inside and out.

Corrosion-free **inside** means the textile finisher enjoys continuous production of contamination-free, trouble-free goods. Corrosion-free **outside** means du Verre J-Boxes never need painting. They're virtually maintenance-free.

du Verre construction is rugged and durable. Lightweight, it permits quick, easy, low-cost installation.

du Verre offers many other products for the textile industry, including tanks, hoods, vats, fans. For complete facts on du Verre corrosion-free J-Boxes and other products designed to your specifications — write Today for Bulletin No. 100.

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NEW BEDFORD, MASS.
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High Speed Warpers
LOOM BEAMS
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"Good Warps are made on Good Beams"

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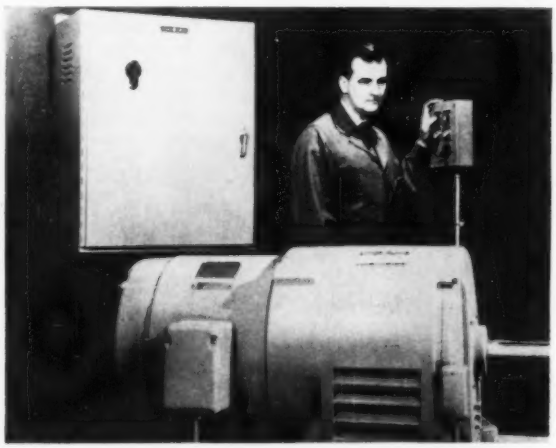
center of the creel can be spliced without moving a single can).

Among the construction features are the following: (1) after drafting rolls have been set near the proper spacing, minute adjustment can be obtained by turning the off-center sleeve bearings on two of the top rolls to one of four positions, each providing for about .010"; (2) continuous air draft in the covers keeps lint out of the gear chain; (3) windows enable operator to see which tube gear is choked when signal light flashes; (4) sliver is pulled straight up out of cans in creel, preventing drag across stock in adjacent full can or across lip of can.

Medley Mfg. Co., Inc., 400 Thirty Second St., Columbus, Ga.

Do you want more data? Write ◆ or use card on page 179; list C-110

Adjustable speed drive features low maintenance



A new line of eddy current coupling adjustable speed drives which are applicable to such textile processing equipment as slashers, warpers, single-motor finishing machines, drive fans, etc., is designated the "Kinatrol" and features simplified design with fewer moving parts for longer service life and sharply reduced maintenance.

The stepless adjustable speed drives, available in ratings from 5 through 100 hp, are offered as a complete package, including the drive unit, control enclosure with control for both coupling and integrally mounted "Tri-Clad 55" a-c motor, and operator's station. They are factory tested as a package, pre-wired for quick, easy installation.

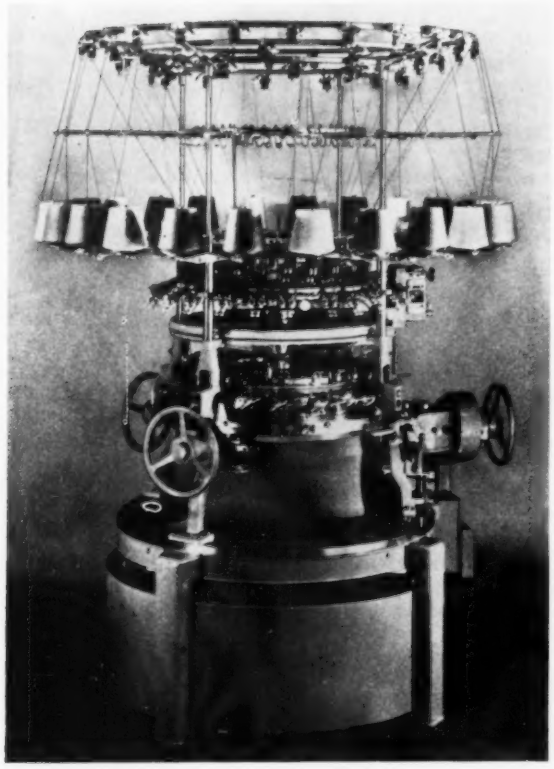
Coupling design features include new bearing arrangement assuring positive gap alignment in service and greatly simplified disassembly and reassembly. Bearing loads are sharply reduced for longer bearing life. Generous bearing reservoirs provide continuous controlled lubrication for years of service without attention. Coupling field coil and tachometer generator are stationary, with no brushes or slip rings. Windings are epoxy encapsulated for positive protection. Integral tachometer generator has novel, two-coil high-frequency design for greater simplicity. Advanced ventilation system gives cooler operation, greater speed range, increased torque capacity, and quieter operation.

Control enclosure elements are all front wired with exciter-regulator, featuring plug-in component board for quick replacement if needed.

General Electric Co., Direct Current Motor and Generator Department, Erie, Pa.

Do you want more data? Write ◆ or use card on page 179; list C-111

Knits 70-72 lb of double pique in 8 hours



High production and quick pattern changes are benefits to be derived with the Terrot Model RMR circular Jacquard knitting machine, a 30-inch-diameter, 24-feed, 16-cut unit for manufacture of cloth of double piqué, eight-lock, one-, two-, and three-color Jacquard designs and blister stitch with plain and twill backing. One-color designs up to 144 stitches high may be produced; two-color designs, 72 stitches; three-color designs, 48 stitches.

Among construction features are these: simple mechanism for selecting bits of pattern wheels makes design changing quick and easy; two independent dial cam races; manually adjustable swing cams for knit, tuck, and welt position; two types of dial needles; one cylinder needle to be selected by adjustable pattern wheels; high class plain fabrics by feedwheel system with pairs of conical wheels for true yarn feeding, regulated by P.I.V. gear drive; electric top stop motions with warning light signals acting in case of excessive strain or yarn breakage; additional set of electrical stop motions located above thread guides and combined with feedwheel system; built-in lint and dust removing attachment.

Speizman Knitting Machine Corp., 508 W. Fifth St., Charlotte 1, N. C.

Do you want more data? Write ◂ or use card on page 179; list C-112

Double-capacity web torque control unit

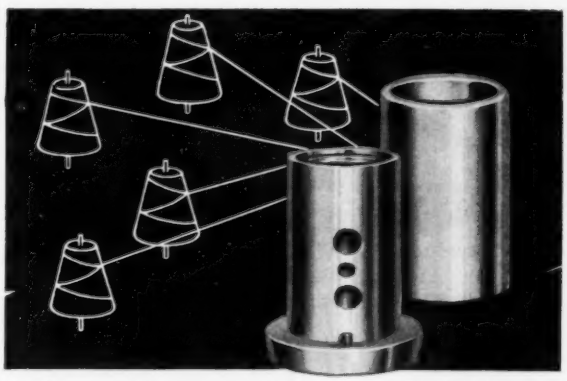
For use on unwind and rewind tension controls for textile printing, impregnating, coating, and embossing machines, ribbon slitters, etc., is a new double-capacity web torque control unit that requires no more space than the single capacity units made by the same firm,

AT YOUR SERVICE!

Southern Sizing's skilled technicians are available to your mill at any time, with service that will make your work run better.

Service Sells Size and Southern Sizing Salesmen Sell Service . . . AND good old Southern Size.

SOUTHERN SIZING COMPANY
EAST POINT, GA.



Johnson Bronze offers quick delivery on a full line of high quality Textile Replacement Bearings

Johnson Bronze can deliver a large variety of textile machinery replacement bearings from stock. These special bearings are made to the same specifications as the originals which they replace, and will give the same satisfactory service.

The fast Johnson service on bearings for all types of textile machinery, and the high quality of their products make Johnson Bronze your best source for replacement bearings. Write for free literature, requesting Folder JBL-9. Johnson Bronze, 530 S. Mill St., New Castle, Pa.

JOHNSON Bearings

Johnson Textile Bearings

Subsidiary: Apex Bronze Foundry Co., Oakland, Cal.

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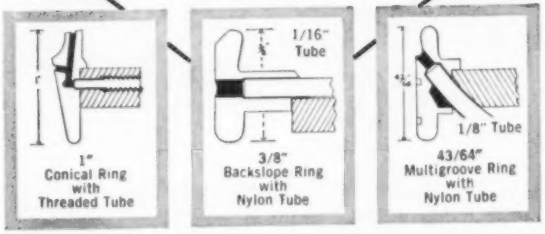
IN ADAPTING RINGS FOR
AUTOMATIC LUBRICATION
Metered & Timed



Above are shown a few of the many ways we adapt your preferred ring style for any system of automatic lubrication. Let us work with you in getting such benefits of centralized automatic lubrication as:

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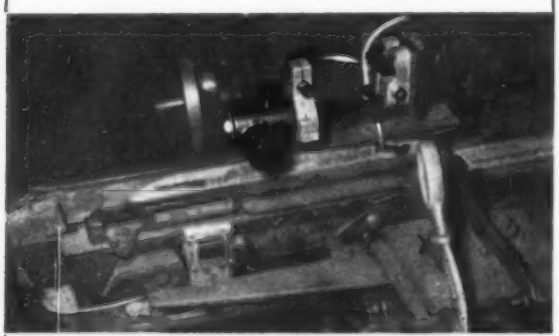
Schweiter, Ltd.	Winding Machinery



Optical Electronic Feeler On Draper Loom

yet costs only 50 per cent more.

The unit has a one-knob control box for clutch and brake and is practically maintenance free as it uses oil shear for torque, for cooling through recirculation, and for lubrication. It is applicable to all torque or speed controlled transmissions from fractional to 150 hp capacity.

Web Control Corp., 318 Briarcliffe Rd., West Englewood, N. J.

Do you want more data? Write ◂ or use card on page 179; list C-113

Equipment briefs

A safety lock for electrically operated machines precludes the possibility of textile processing equipment being started when in an unprotected or unsafe condition. Called the Lance Electric Safety Lock, it insures that, before the power required to operate the machine can be turned on, the proper safety door must be fully closed, or operating lever must be in proper position, etc.

Foster Machine Co., Lindly Div., Westfield, Mass.

Do you want more data? Write supplier or use card on page 179; list C-210

A new Size 4 electric motor starter is 33% smaller, yet it retains the long-life electrical and mechanical characteristics of the previous design of the Square D NEMA Size 4 starter. Features trip-free melting alloy overload relays with unit-construction thermal units, or adjustable bimetallic overload relays with hand and automatic reset. Up to four double-circuit interlocks may be added.

Square D Co., 4041 N. Richards St., Milwaukee 12, Wis.

Do you want more data? Write supplier or use card on page 179; list C-211

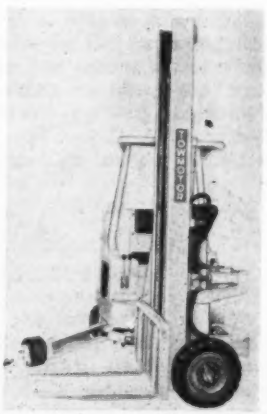
Roller bearing series features cage design. A new series of channel-shaped outer ring roller bearings, Series HJ, features a cage design that separates roller guiding and roller retaining functions by employing a cage bar depressed within the roller pitch circle. The design gives extremely long life and combines highly effective roller guidance, minimum internal friction, and generous provisions for lubrication to allow operation at higher speeds than full complement types. Made in sizes ranging from ¾" to 4" bore, the bearings may be applied directly to hardened and ground shafts or used with inner rings which are also available.

The Torrington Co., Torrington, Conn.

Do you want more data? Write supplier or use card on page 179; list C-212

Fork truck front end pivots 90 degrees. The 4000-lb capacity (at 24" load center) Towmotor Model 590 Fork Lift Truck features a front end assembly that can be pivoted a full 90 degrees in either direction to right or left angle stack loads in an aisle as narrow as six feet. Hydraulically-operated outriggers stabilize the truck during pivoting operation. Wheelbase is 59".

Towmotor Corp., 1226 E. 152nd St., Cleveland 10, Ohio.



Do you want more data? Write supplier or use card on page 179; list C-213

Simplifies compliance with labeling law. A new model of the Dennison Dial-Set Machine is designed specifically to solve marking problems created by the Textile Fiber Products Identification Act. With this machine, designated the Special Model B Fiber Content Dial Set, an operator can dial-set combinations of generic names of fibers and their percentages and imprint them as needed on preprinted tag forms at the rate of 165 tags a minute.

Dennison Mfg. Co., Machine Systems Div., Framingham, Mass.

Do you want more data? Write supplier or use card on page 179; list C-214

Versatile material and air handling fans (Series 400) have a newly designed open wheel which may be used for handling granular, abrasive, and fibrous materials; dust collection; fume and high temperature exhaust; etc. Wheel is constructed of flat radial blades for easy maintenance. Also available for handling clean air, fumes, and very light dust are fans with an air wheel that uses backwardly inclined blading for higher efficiency. Smooth inside surfaces prevent material collecting, make application of protective coatings easy.

Westinghouse Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

Do you want more data? Write supplier or use card on page 179; list C-215

Low pressure air and hydraulic cylinders recently placed on the market are stronger, more leak-free, and of greater service in high speed applications. Called "Powrmation" cylinders, they have these construction features: (1) mountings are welded to the one-piece steel heads; (2) pressure-safe tube seal; (3) check seal cushion that provides faster operation of cylinders, better control, longer life with greater uniformity of action, easier maintenance, and increased cushion length; (4) fast change cartridge gland.

Hanna Engineering Works, 1765 Elston Ave., Chicago 22, Ill.

Do you want more data? Write supplier or use card on page 179; list C-216

Uniform dyeing and quick drying of yarns result when Radia Type III/K Cheese Spring Sleeves are utilized as the core of the yarn package while it is being dyed. A special feature of the sleeve is radial elasticity which (1) insures insertion conically and cylindrically in any required diameter and (2) offers no resistance to shrinking or swelling of the yarn during dyeing so that elongation losses in the inner layers of yarn are prevented and yarn breakage during weaving and knitting is practically eliminated. The spring sleeve easily can be exchanged for a cardboard sleeve without disturbing the inner layers of yarn. Sleeve may be used with all types of dye spindles, and use of intermediate plates between cheeses is unnecessary.

August Schoenenberg, Inc., 1267 W. Laurelton Parkway, W. Englewood, N. J.

Do you want more data? Write supplier or use card on page 179; list C-217

For attachment of elastic to underwear, leotards, etc., is the new Willcox & Gibbs 1602-CWS flat bed elastic machine with sealed-for-life bearings and controlled lubrication that prevents oil spotting on garments. Other

TON-TEX Ve-E-zy
SEGMATIC V-BELTING
Mile after mile of Ve-E-zy speeds production in industry on V-Belt drives. Made of segments punched from Ton-Tex Belting stock, and coupled with special clamping bolts and nuts.
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A, B, C and D Sections — Fits all standard sheaves — 50 and 100 foot spools, in regular and Oil-Ex (oil and heat resistant) construction.
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features are: the Perfect Stretch Elastic Tension Device that eliminates irregularity in sizes, internal belt drive, upper handwheel, and differential feed.

Willcox & Gibbs Sewing Machine Co., 214 W. 39th St., New York 18, N. Y.

Do you want more data? Write supplier or use card on page 179; list C-218

Positive protection against motor overload is provided by the R-27 Load Limiting Relay which is designed for use with pneumatic control systems and intended for application to all types of centrifugal refrigeration compressors, pumps, fans, and electrical heating equipment. Featuring an adjustable demand limiter, the unit is especially valuable in preventing damage during the start-up period and following prolonged or overnight shutdowns.

Johnson Service Co., Milwaukee 1, Wis.

Do you want more data? Write supplier or use card on page 179; list C-219

New self-cleaning pipeline strainers (Type BT) in sizes from ¼" through 3" feature high strength construction of the bronze bodies, long and tapered screen socket that insures tight fit of the screen cylinder without buckling, built-in sediment collection chamber integral with cap, and 45-degree blow-down connection angle.

Sarco Co., Inc., 635 Madison Ave., New York 22, N. Y.

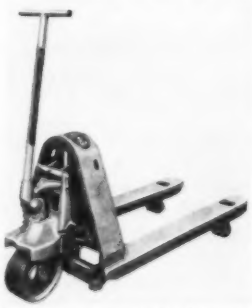
Do you want more data? Write supplier or use card on page 179; list C-220

Space- and weight-saving V-belt drives. With compact packages made possible through high-strength belts and sheaves, the new Wood's "Ultra-V" drives are capable of handling up to three times the horsepower of conventional V-belt drives occupying the same space. Over-all dimensions are reduced as much as 50 per cent when the new multiple V-belt drive is used, weight is up to 25 per cent less, and cost savings as high as 30 per cent are realized. The smaller drives reduce shaft overhang, increase bearing life, cut maintenance costs, and simplify inventory and storage.

T. B. Wood's Sons Co., Chambersburg, Pa.

Do you want more data? Write supplier or use card on page 179; list C-221

A 3000-lb capacity hydraulic hand lift truck for use with double- or single-faced pallets provides a full 4" of lift with seven easy strokes of the balanced operating handle. Minimum pulling effort is achieved with smooth-faced wheels which roll on tapered roller bearings.



Yale Materials Handling Div., The Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa.

Do you want more data? Write supplier or use card on page 179; list C-222

Motor control centers for controlling electrical loads such as motors, lighting, heating, etc., offer improved operation, easier maintenance, and increased versatility over individual units. Available either as fusible or circuit breaker combination units with bus capacity from 200 to 2000 amps for voltages from 110 to 600, the control centers offer these construction features: reduced engineering and installation cost, savings in floor space up to 33 per cent, plug-in design, only one main circuit breaker is needed for one center, equipment arrangement is neater.

Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.

Do you want more data? Write supplier or use card on page 179; list C-223

New books for textile industry personnel

Man-Made Textile Encyclopedia is an integrated and comprehensive source of information on the many facets of the man-made textile industry, bringing together in one 914-page volume the professional experience of 149 leaders in various phases of the industry. Subjects covered range from fiber science to laundering, from fiber production to fabric and clothing manufacture, and from mill to dyehouse, converter, and department store. "The approach," said the editor of the book, J. J. Press of the U. S. Navy Clothing and Textile Research Laboratory, "has been to have each expert in a particular area describe in a concise, definitive fashion the language, mechanics, needs, and problems of his field for the enlightenment of students and of experts in other segments of the textile industry." Man-made textile data are presented in 376 charts and tables, and there are 561 illustrations of equipment and of fabric constructions. World fiber trademarks and a glossary are other features. Published by Textile Book Publishers, Inc., 250 Fifth Ave., New York 1, N. Y. Price: $27.50.

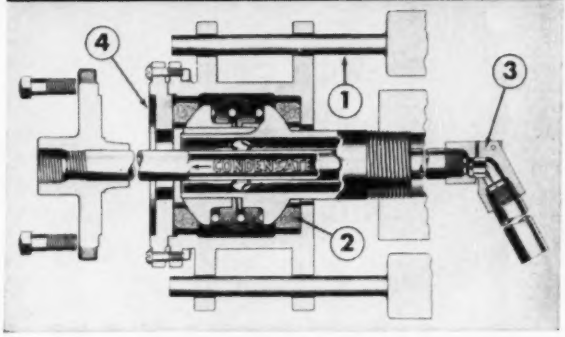
The 1959 edition of *ASTM Standards on Textile Materials* contains 134 standards, 23 of which are new, revised, or have had their status changed recently. Included are terms, definitions, specifications for testing machines, quantitative and qualitative analysis, resistance to insect pests and microorganisms, fibers, yarns, threads, and cordage. Also included are standards for fabrics, nonwoven fabrics, hosiery, carpets, tire cord, asbestos textiles, bast and leaf textiles, kraft yarns, cotton textiles; glass, man-made fiber, and wool textiles. In addition, there are 15 extensive appendices. The 924-page, hard cover book is available from American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. Price: $8.50.

The fourth edition of the National Safety Council's *Accident Prevention Manual for Industrial Operations* is a complete revision of the third edition and contains 200 additional pages of new information. Compiled, edited, and reviewed by safety authorities in their fields, the 1,542-page manual has 500 illustrations and data on every aspect of industrial safety. Included are new chapters on (1) the hazards of handling radioactive materials, (2) nondestructive means of testing materials and products through radiography, (3) various kinds of radiation and safe limits of exposure. Other subjects covered include: accident investigation, analysis, and costs; plant construction and maintenance; handling and storage of materials; power trucks and tractors; ropes, chains, and slings; hand and portable power tools; flammable liquids; personal protective equipment; medical, nursing, and first-aid services in industry, and a table of chemical hazards. Available from: National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill. Price: $15.50.

The third edition of a textbook on industrial purchasing, *Purchasing—Principles and Applications*, is available. Written by Stuart F. Heinritz, the 616-page book includes sections on: purchasing function; management; organization; quality; standardization; inspection; quantity; forward buying; source; make or buy; capital equipment; procedures; data processing; policies; ethics; legal aspects; case studies, etc. Published by: Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y. Price: $9.25.

Management's Right to Manage, by George W. Tor-

For service on Dry Cans and 30" Slasher Cylinders



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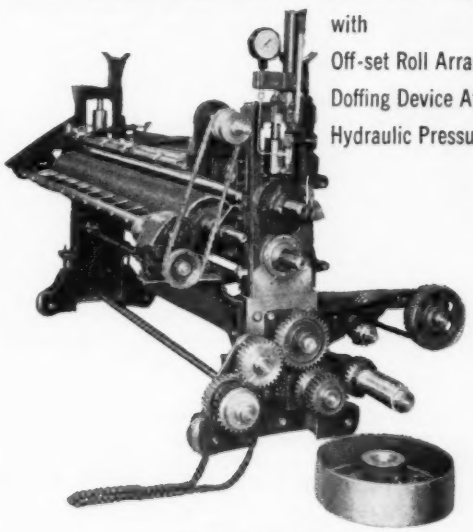

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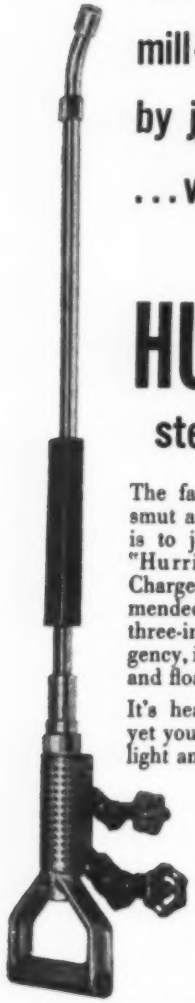

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rence, a consultant on management problems, gives top management information and insight which will enable it better to evaluate its own position. The author begins by explaining what management rights are and why they are important. In succeeding parts he dissects specific areas of management rights to show exactly what has happened. Right to require overtime, right to establish and enforce rules, right to discipline and discharge, right to make changes in job duties, right to increase employee's workload, right to have jobs performed by employees with less skill, and right to deviate from past practice are some of the subjects covered. "An approach toward the preservation of management rights" is the title of the final section. Published by: BNA, Inc., a division of The Bureau of National Affairs, Inc., 1231 24th St., N. W., Washington 7, D. C. Price: $12.50.

The Punched Card Data Processing Annual is an applications and reference guide for users of punched card and punched tape equipment and business computers. It features a "computer guide" that displays all commonly used types of electronic computers, with basic descriptions and characteristics. 45 detailed applications of punched card, tape, and computers are classified by type of business and function (i.e., payroll, sales analysis, etc.). A section is included on wiring techniques for punched card equipment. A directory gives local sources (40 largest U. S. cities) for most supplies and services needed. Publisher: Gille Associates, Inc., 956 Maccabees Bldg., Detroit 2, Mich. Price: $15.00.

Cotton Manufacturing in the Southeast—an Historical Analysis, by Jack Blicksilver, a professor of economic history, "attempts in an interpretive fashion to evaluate the factors which led to the establishment and growth of the industry in the southeast, to assess its changing role and significance in the region, and to suggest its possible future orientation." Single copies of the 176-page bulletin are free upon request to Georgia State College of Business Administration, 33 Gilmer St., Atlanta 3, Ga.

The lumen method for determining how many fixtures are needed to provide a particular illumination level and for computing the illumination level which can be expected from a given installation is contained in the *Primer of Lamps and Lighting*, by Willard Allphin. This 242-page book covers incandescent, fluorescent, and mercury lamps in detail, explaining how they work and giving their principal characteristics. Light meters, miscellaneous lamp types, and hints on home lighting are given in a simple, down-to-earth style which is easy for the practical man to understand. Plant electrical foremen and maintenance personnel who must deal with electrical equipment should find it useful. Published by Chilton Co., Book Division, Philadelphia, 39, Pa. Price, $10.00.

The lighter side of the problems of the business executive is portrayed in the 96-page book of cartoons entitled *The Embattled Executive*. The 85 drawings and text demonstrate how challenging the manager's job is. This theme is carried out through a little cartoon figure who is everything a manager shouldn't be. The witty text points out where he goes wrong. How executives spend their working day, the executive reading load, how to wreck a conference, the perils of business forecasting, decision making, how to fluff a speech, ten ways to retard progress, and executive health are subjects treated. Published by American Management Association, Inc., 1515 Broadway, New York 36, N. Y. Price, $1.95.

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FREE BOOKLETS

3-1 DESIZING MANUAL—Booklet discussed the application of desizing agents in both liquid and dry form. Outlines the more commonly used mill processes. Pabst Brewing Company, Industrial Products Division, Merchandise Mart, Chicago 54, Ill.

3-2 WATER TREATMENT—Booklet describes water treatment for condensers, air washers and other recirculating systems through the use of Anco scale remover, Coolex etc. Anderson Chemical Company, Inc. P. O. Box 1424, Macon, Ga.

3-3 INDEX OF TI ARTICLES—1959 Subject Index of articles appearing in TEXTILE INDUSTRIES now available. Textile Industries, 806 Peachtree Street, N. E. Atlanta 8, Ga.

3-4 LABELING LAW—Booklet gives highlights of the new textile fiber labeling law. Free while they last. Textile Industries, 806 Peachtree Street, N. E. Atlanta 8, Ga.

3-5 CIRCUIT BREAKER—Illustrated catalog provides information on standard and engineered products on I. T. E. products. I-T-E Circuit Breaker Company, 1900 Hamilton Street, Philadelphia 30, Pa.

3-6 WATER TREATMENT INSTRUMENTATION—Methods of automatic control for water treatment plants are discussed in booklet. Graver Water Conditioning Company, 216 West 14th Street, New York 11, New York.

3-7 ACCOUNTS RECEIVABLE FINANCING—Booklets cites advantages of form of financing in which the company handles credits and collections without the assistance of a financing company. Commercial Factors Corporation, 1 Park Avenue, New York, New York.

3-8 VARIABLE SPEED PULLEYS—Technical catalog describes variable speed pulleys plus related equipment, including compound drives, motor bases, frames, wide V-belts and sheaves. Lovejoy Flexible Coupling Co., 4949H, W. Lake Street, Chicago 43, Illinois.

3-9 CLOTH HANDLING—Brochure describes "free wheeling" expanders used to eliminate wrinkles, loss-of-width, and distortion. Mount Hope Machinery Company, 15 Fifth St., Taunton, Mass.

3-10 VERTICAL SINGER—Circular illustrates and describes a Vertical Four Burner Singer, equipped to handle two strands of cloth. Birch Brothers, Inc. 32 Kent Street, Somerville 44, Mass.

3-11 DYEING ASSISTANT—Bulletin describes the properties and applications of Solvofen HM, a dyeing assistant and solvent. Antara Chemicals Div., General Aniline & Film Corporation, 435 Hudson Street, New York 14, N. Y.

3-12 HIGH SPEED DRAFTER—Brochure describes two-headed Drafter, working at high speed and occupying reduced floor space. Mr. John Berry, SACM, 3 Channing Place, Cambridge, Mass.

3-13 CHAINS & SPROCKETS—New Bulletin presents complete line of chains and sprockets covering nearly all roller chain requirements. Bulletin A-691, Dodge Manufacturing Corporation, Mishawaka, Indiana.

3-14 SPEED INDICATION—Catalog describes use and features of package that provides speed indication for nearly every industrial process. Servo-Tek Products Co. Inc., 1086 Goffle Rd, Hawthorne, N. J.

3-15 SILICONES—Brochure features silicones for anti-foam and release agents, lubricants, textile finishes, etc. Request bulletin CDS-129B, Silicone Products Department, General Electric Company, Waterford, New York.

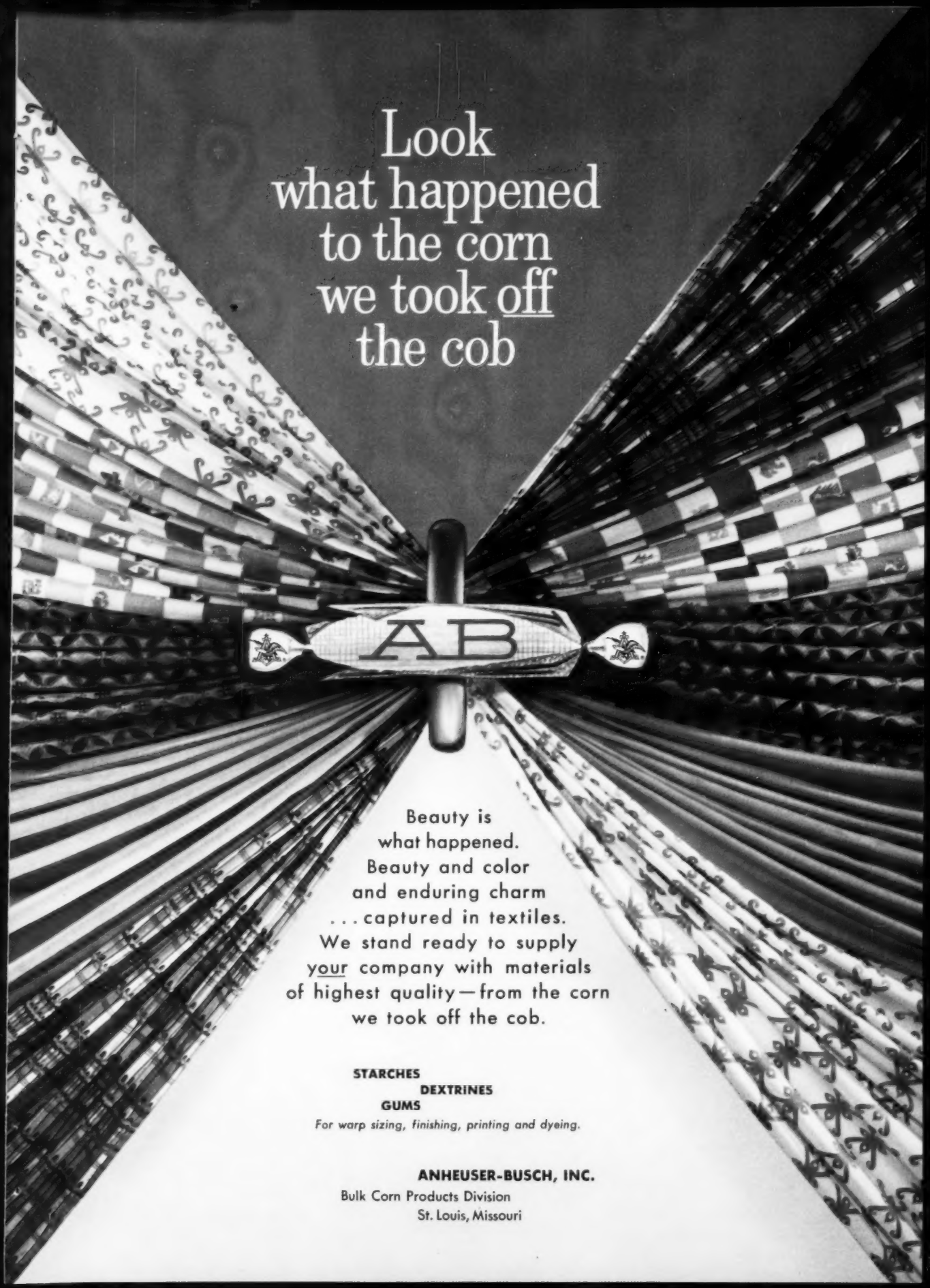
3-16 "LYCRA" SPANDEX FIBER—Booklet describes chemical and physical properties of "lycra", as well as production calculations and processing characteristics, Textile Fibers Division, E. I. du Pont de Nemours & Co, Inc. Wilmington 98, Delaware.

3-17 SETTING SYNTHETICS—Bulletin describes fiber setter for setting synthetic fibers in baskets, in cans or in bobbin racks. Turbo Machine Co., Lansdale, Pa.

3-18 SPINNING CHANGEOVERS—Booklets describe spinning and drafting changeovers for Casablancas, Roth, Shaw and two type spinning, Dixon Corp., P. O. Drawer 7, Bristol, R. I.

3-19 HYDROGEN PEROXIDE—Booklet presents practical information on the properties of hydrogen peroxide, its water solutions and handling. Solvay Process Division, Allied Chemical Corp, 61 Broadway, New York 6, New York.

3-20 SLASHERS—Information on complete line of textile slashers and related equipment. West Point Foundry and Machine Co., West Point, Georgia.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BOOKLETS

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T-101 **LUMMUS PEPPER - SHAKER OPENER.** Gives complete details and protographs. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-102 **STATIC ELIMINATION.** How to eliminate static safely and inexpensively. Simco Co., 920 Walnut St. Lansdale, Pa.

T-103 **CARD GRINDING INFORMATION.** Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

T-104 **CARD CLOTHING.** Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

T-105 **VERSA - MATIC DRAWING FRAME.** Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

T-106 **SARGENT OPENER.** Describes opener with rotary evener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-107 **FEATHERTOUCH DRAFTING.** How to get "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

T-110 **BOBBINS.** Catalog describes metal, wood and plastic bobbins. Illustrations show actual use. Lestershire Spool Div., National Vulcanized Fibre Co., Wilmington, Del.

T-111 **MAGNETIC IDEAS.** Booklet shows uses of permanent magnetic separation equipment in opening room as well as throughout mill. Removes tramp iron, prevents fires. Eriez Mfg. Co., Erie, Pa.

T-112 **ADVANTAGES OF ALDRICH PICKERS.** Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-113 **NEW CONDENSER TAPE.** Describes Supr-O-Tape, an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-119 **FIBER METER.** Automatic weighing and blending assures quality, holds variation to 1%. James Hunter, Inc., P. O. Box 298, Mauldin, S. C.

T-120 **PIN DRAFTERS.** Textile job report No. 21 tells how Warner & Swasey Pin Drafters help modify jute systems for carpet yarns. Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

T-121 **UNIVERSAL CARD COILER.** Literature describes both head and base swivel for adjustment. Includes data on 90-day free trial. McDonough Power Equipment, Inc., McDonough, Ga.

T-122 **RECONDITION OPENING & CLEANING.** Bulletin gives whys and wherefores of reconditioning your opening and cleaning lines. Special attention given to each machine with suggestions as to parts replacement. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-123 **COILER CONVERSIONS.** Full facts on low initial cost conversion to larger coiler cans. Lists advantages, has complete description. Southern States Equipment Corp., Hampton, Ga.

T-124 **CARD DRIVE.** Bulletin 301-a describes simple, safe, efficient individual card drive. Southern States Equipment Corp., Hampton, Ga.

T-132 **PROCTOR SUPER PICKER.** Data sheet gives details of the Proctor Super Picker for use on slabs of baled cotton, or wool and synthetic blends in layers up to 12" thick. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-133 **ANTI-STATIC AGENT.** Data sheet lists basic characteristics of liquid anti-static agent which eliminates processing difficulties with fibers due to static electricity. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

yarn and warp making

T-201 **PRODUCTS FOR SPINNING AND WEAVING.** Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

T-202 **NEW BOBBIN MANUAL.** Complete bobbin guide. Lestershire Spool Division, National Vulcanized Fibre Co., Wilmington 99, Delaware.

T-203 **SPINDLE OIL.** "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

T-205 **HIGH SPEED AUTOMATIC QUILLER.** Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N. C.

T-208 **PACKAGED SPINNING MODERNIZATION.** Details on Collecto-Vac, Open-Aire Creels, Cross-Jet Cleaner, Air Conditioning. Bahnson Company, Winston-Salem, N. C.

T-209 **SECTIONAL WARPER.** Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

T-210 **CONICAL RINGS AND FLYERS.** Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

T-211 **PRECISE WINDING MACHINE.** For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

T-212 **AUTOMATIC CLEANING EQUIPMENT.** Working details and advantages of the Tri-Rail Cleaner. American MonoRail Co., 111 East 200th St., Cleveland 17, Ohio.

T-216 **SPINNING FRAME CONVERSIONS.** Big-package, new-frame results at half the cost. Meadows Mfg. Co., P. O. Box 10876, Station A, Atlanta, Ga.

T-217 **COLLECTO-VAC.** New development collects lint, fly and broken ends. The Bahnson Company, Winston-Salem, N. C.

T-219 **SPINNING AND TWISTER RINGS.** Complete details, pictures, price list. Whitinsville Spinning Ring Co., Whitinsville, Mass.

T-222 **SUCTION CLEANING SYSTEM.** Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 1, N. C.

T-223 **FACTS ABOUT YOUR FLYERS AND SPINDLES.** Advantages of smooth flyer and spindle operation. Ideal Machine Shops, Bessemer City, N. C.

T-225 **LAPLESS ENDLESS SPINNER.** Full information available. Ton-Tex Corporation, 31 Columbus Ave., Englewood, N. J.

T-227 **SPINDLE OILING MACHINE.** Features and advantages noted. Wicaco Machine Corp., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

T-228 **HANDY SPINNING REFERENCE.** Shows traveler speeds, sizes of ring flanges. Saco-Lowell Shops, Parts Replacement Division, P. O. Box 327, Greenville, South Carolina.

T-229 **UNIRAIL UPTWISTER.** Higher yarn quality and better packages at faster speeds. Leesona Corp., P. O. Box 1605, Providence, R. I.

T-230 **PRECISION TEXTILE WINDING.** Tensions and density control for winding rubber cones. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-231 **CONE WINDER.** Describes Model 102 winder, including applications. Foster Machine Co., Westfield, Mass.

T-232 **SHORT CUT TO STAPLE FIBER SPINNING.** Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

T-233 **WEAVER'S KNOTTER.** Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

T-234 **TEXTILE ROLL COVERINGS.** Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

T-239 **LARGE PACKAGE TWISTER.** Information on new anti-friction Jumbo Twister which carries a 14" bobbin with a 12" build. Meadows Mfg. Co., P. O. Box 10876, Sta. A, Atlanta, Ga.

T-241 **PACEMAKER TWISTERS.** Folder gives details on high production, outlines notable features. Whitin Machine Works, Whitinsville, Mass.

T-242 **RING SPINNING FRAME.** Folder presents description, illustrations and specifications of up-to-date Simplex ring spinning frames. Davis & Furber Machine Co., North Andover, Mass.

T-243 **ANTI-FRICTION TWISTER BEARINGS.** Find out how bearings helped make The Meadows Twister almost friction-free. Fafnir Bearing Company, New Britain, Conn.

T-246 **BETTER BEAMS.** Information on three ways to make better beams. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-249 **VARI-SPEED MOTOR PULLEY.** Describes variable speed control through use of simplified three-major-part disc-assemblies with only one lubrication point. Reeves Pulley Co., Reliance Electric & Engineering Co., Columbus, Ind.

T-250 **SPINNING MODERNIZATION** Booklet shows how lower costs and improved quality are obtained by spinning modernization. Roberts Company, Sanford, N. C.

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BOOKLETS

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T-256 HUMIDIFIER PROTECTION — Brochure tells how "Rustex" can stop rust and corrosion and prevent discolored water in your humidifying system. Odorless and completely harmless to personnel, or goods. Anderson Chemical Co., Inc., Box 1424, Macon, Georgia.

slashing—weaving—tufting

T-301 COUNTING AND MEASURING DEVICES. Wide range of counting devices for all types of textile machinery. Veeder-Root, Inc., Hartford, Conn.

T-302 LOOM SUPPLIES. Describes complete line. E. H. Jacobs Northern Division, The Bullard Clark Co., Danielson, Conn.

T-304 LOOM PRODUCTION CHARTS. Celluloid card shows yards per loom per week. Ralph E. Loper Co., Greenville, S. C.

T-306 THE STORY OF STARCHES. History and information on manufacture and use of starches. National Starch & Chemical Corp., 750 Third Ave., New York 17, N. Y.

T-308 STEEL WARP BEAMS. Beams for both broadloom and narrow fabrics. Milton Machine Works, Inc., Milton, Pa.

T-309 PENFORD GUMS IN TEXTILES. Describes their excellent properties for warp sizing spun yarns. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-312 AIR SLASHER DRYER. Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-313 BUTT-TACKING SEWING MACHINE. Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

T-314 LOOM REED BOOKLET. Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

T-315 COCKER EQUIPMENT. Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

T-318 FORMULAS FOR SLASHING ARNEL. Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

T-319 ECLIPSE STARCHES FOR TEXTILES. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-321 COCKER SLASHERS. Complete specifications and advantages, including allied equipment. Cocker Machine & Foundry Co., Gastonia, N. C.

T-322 MOUNTS FOR LOOMS. Vinyl mount eliminates need for bolts or paste. Clark, Cutler, McDermott Co., 106 W. Central St., Franklin, Mass.

T-323 UNIFIL LOOM WINDER. Describes new concept of filling preparation which needs no quilling area. Leesona Corp., P. O. Box 1605, Providence, R. I.

T-324 ALIGNING LAYS. Setting instructions for step-by-step aligning. Draper Corporation, Hopedale, Mass.

T-325 TRAVELING LOOM CLEANER. Advantages of the new Oscillaire loom cleaner. Parks-Cramer Co., Fitchburg, Mass.

T-326 DRAPER REPAIR PARTS CATALOG. Contains illustrations covering all mechanisms and construction with complete listings. Draper Corporation, Hopedale, Mass.

T-327 BALING PRESSES. Describes complete line of motor-driven and hydraulic baling presses. Logemann Brothers Co., 3150 West Burleigh St., Milwaukee, Wis.

T-328 TEXTILE MACHINERY PARTS CATALOG. Describes complete line of Dayco and Thorobred textile parts. Dayton Rubber Co., Dayton, Ohio.

T-329 COUNTING DEVICES. Describes complete line of counters for every application. Trumeter Company, 38 W. 32nd St., New York 1, New York.

T-331 STATIC BARS. Humorously illustrates how static can be overcome. The Simco Co., 920 Walnut St., Lansdale, Pa.

T-332 CARE OF DRAPER SHUTTLES. Describes how longer, trouble-free service may be obtained. Draper Corporation, Hopedale, Mass.

T-336 ONE-PIECE SIZING AGENT. Houghto-Size CW provides low kettle cost, results in free-running warp of high breaking strength, increasing weaving efficiency. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

T-346 FACTS ON NON-WOVENS. Fact file on non-wovens tells of new machinery, new methods of handling fibers, new bonding agents, etc. Curlator Corporation, Textile Div., E. Rochester, N. Y.

T-347 NEW DRYING SYSTEM. Describes high capacity, custom engineered drying equipment for tufted plants. Dalton Sheet Metal Co., Inc., Dalton, Ga.

T-351 AUTOMATIC STOP MOTION. Complete information available on automatic stop motion for Titan warp tying-in machine. Edda International Corp., 468 Fourth Ave., New York 16, N. Y.

T-353 BACKING FOR TUFTEDS. How to get your tufting necessities with one telephone call. Fulton Cotton Mills, P. O. Box 1726, Atlanta 1, Ga.

T-355 NON-WOVEN FABRICS. Booklet gives outline of nature and history of non-woven and the manufacturing techniques of today. Booklet 56-219A, Chemical Div., Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-358 LOOM SUPPLIES. Information on rod lubricant and applicator, sponge leather bunter, picker. Garland Mfg. Co., 54 Water St., Saco, Me.

T-362 SIZE THAT SATISFIES. Information on getting the correct size package for your mill. Also on Bingham line of slasher rolls. Stodghill & Co., 716 Ponce de Leon Place, Atlanta, Georgia.

T-363 RUBBER COVERED SLASHER ROLLS. Handy booklet tells how to get longer life and better performance from rubber covered rolls. Includes data on handling, storing and grinding. Stowe-Woodward, Inc., Dept. C., 181 Oak St., Newton Upper Falls 64, Mass.

knitting

T-401 SINGLEHEAD FULL - FASHIONED MACHINE. Literature on request from the Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-403 RASCHEL KNITTER. Describes new Raschel-type knitting machine. Kidde Textile Machinery Corp., Inc., Farrand St., Bloomfield, N. J.

T-406 NEEDLE OIL DOES NOT STAIN. Details on "Gulftex 39" developed for knitting mills. Gulf Oil Corp., P. O. Box 1106, Pittsburgh 30, Pa.

T-407 KNITTING MACHINES. Information on Wildman "TFS" 30" single section F-F machines and "AL" 32" diameter 32-feed "single purpose" circular interlock machine (rib type) Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-409 KNIT GOODS FINISHING MACHINERY. Data on calenders, shrinkers, curers, extractors, steamers. Tubular Textile Machinery Corp., 33-61 54th St., Woodside, N. Y.

T-410 "READING" TYPE 60 F-F KNITTING MACHINE. Information about the new "Reading" Type 60, 38-section automatic full-fashioned hosiery knitting machine. Write Textile Machine Works, Reading, Pa.

wet processing

T-500 CLOTH GUIDES. Bulletin 22.1 provides application diagrams and illustrations. GPE Controls, Inc., 240 E Ontario St., Chicago 11, Ill.

T-501 TUBES FOR PACKAGE DYEING. Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

T-502 FINISHING MACHINERY. Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providence, R. I.

T-503 WATER ANALYSIS. Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-504 UREA FORMALDEHYDE. Literature on urea formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1, Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-506 CATIONIC SURFACE ACTIVE AGENT. Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-507 CONTINUOUS STARCH COOKER. Booklet shows how the use of continuous cookers for starch assures accurate control, economy, low maintenance in warp sizing and finishing. Clinton Corn Processing Company, Clinton, Iowa.

BOOKLETS

T-508 PEROXIDE BLEACHING SYSTEM. Illustrates and describes this continuous system. E. I. du Pont de Nemours & Co., Electrochemical Dept., Wilmington, Del.

T-510 TEXTILE CHEMICALS. Describes leading products for wet processors. Royce Chemical Co., Carlton Hill, N. J.

T-512 DEPUMA. Describes odorless, viscous, non-evaporating emulsion for anti-foam. Koppers Co., Inc., Chemicals & Dyestuffs Div., 2010 Clarke Bldg., Pittsburgh 19, Pa.

T-513 CATALYST AC-6. Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Springfield 2, Mass.

T-514 SODA ASH BULLETIN. Contains useful data covering this subject. Solvay Sales Division Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-516 ALUMINUM CHELATE PEA-1. Technical data sheet tells how aluminum Chelate PEA-1 may be used with advantage in many applications where aluminum is proplate is unsatisfactory. Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-517 CHEMICAL CATALOG. Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

T-519 HYDRAULIC POWER UNITS. Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

T-522 CUT WATER TREATMENT COSTS. Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

T-526 PRODUCTS FOR TEXTILE IMPROVEMENT. Describes products and services designed to provide better fabrics. B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, Ohio.

T-527 SODIUM HYDROSULFITE. Literature and test samples are available on "T-C Hydro." Tennessee Corp., 617-629 Grant Bldg., Atlanta, Ga.

T-528 ETHANOLAMINES. Lists application, chemical and physical properties. Nitrogen Division, Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-531 ROTARY DYEING MACHINE For use in dyeing hosiery, hats, gloves, socks, etc. Turbo Machine Co., Lansdale, Pa.

T-534 DYEING AND FINISHING MACHINERY. Complete line presented in series of catalogs. Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

T-535 DYEING, BLEACHING AND DRYING EQUIPMENT. Complete line for cotton, wool and synthetics described. Color pictures. Morton Machine Works, 1718 3rd Ave., Columbus, Ga.

T-536 NAPTHOL RATIOS SLIDE CHART. Quickly and accurately enables operators to determine Napthol Ratios. Alliance Color & Chemical Co., 33 Ave. P, Newark 5, New Jersey.

T-540 PENFORD FINISHING GUMS. Complete data, including physical properties. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-541 REGENERATION OF ZEOLITE WATER SOFTENERS. Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

T-542 DYEING SYNTHETIC FIBERS. Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-543 INDUSTRIAL BRUSHES. Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-544 WASTE HEAT RECOVERY Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

T-545 WASHERS FOR SCOURING, BLEACHING, ACIDIFYING. Describes highcapacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-546 NAPHTHOL FOR LIGHTFAST BROWNS. Booklet describes new, straight, non-substantive naphthol, Naphthol As-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-547 SOFTENER LUBRICANT, NAPPING AID. Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

T-548 HANDBOOK ON METHOCEL. Gives technical information and use data on family of methylecellulose ethers called Methocel. Organic Chemicals Sales, The Dow Chemical Co., Midland, Mich.

T-549 WALL CHARTS FOR HANDLING, TESTING H_2O_2. Two 16" x 21" wall charts available, one on handling and the other on testing H_2O_2. Becco Chemical Div., Food Machinery & Chemical Corp., Buffalo 7, N. Y.

T-550 POLYVINYL ACETATE EMULSION. Bulletin contains a description of Celanese emulsions and cites advantages of Celanese polyvinyl acetate emulsions in textile finishing. Celanese Corp. of America, Plastics Div., 744 Broad St., Newark 2, N. J.

T-554 INSTRUMENT CATALOG. Complete information on industrial instrument accessories and supplies. Includes specifications, parts numbers and prices. Catalog 500, Foxboro Co., Foxboro, Mass.

T-556 HUNTER DYEING EQUIPMENT. Describes fully with diagrams Hunter Model A Dye Becks, Hunter No/Lap Reels, Model S Dye Kettles, Open Width Dye Kettles, Sample Dye Kettles. James Hunter Machine Co., North Adams, Mass.

T-557 HIGH ACTIVITY CATALYST. Technical bulletin describes new catalyst AC-6 which provides increased activity, excellent bath life, minimum odor formation, etc. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

T-558 CATIONIC DYE LEVELER. Bulletin TX-34 gives new information on dye leveler for acid colors on nylon tricot and wool through use of Nopco 1425-B. Nopco Chemical Co., Textile Chemicals Div., Harrison, N. J.

T-559 FLOW CONTROL Complete information on largest selection of values to handle flow control requirements. William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-561 PUMP POURABLE PASTES. Bulletin tells how Moyno pumps can pump any textile liquid that can be forced through a pipe, even if highly viscous or corrosive. Robbins & Myers, Inc., Springfield, Ohio.

T-563 POLYETHYLENE FINISHING AGENT. Booklet contains information needed to adopt Emulsifiable A-C polyethylene as a finishing agent to any particular process. Semet-Solvay Petrochemical Div., Allied Chemical Corp., 5th Floor T, Rector Street, New York 6, N. Y.

T-564 HYDROGEN PEROXIDE BLEACHING. Booklet discusses advantages, operating details and savings in chemical costs of Activated Hydrogen Peroxide Bleaching Process for Cotton Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-566 ETHYLEX GUMS. Brochure describes properties of hydroxy ethyl ether derivatives of corn starch. Applications of these noncongealing gums in warp sizing and finishing covered. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

T-570 CARPET DRYERS. Details, pictures, drawings on driven roll, conveyor, and tenter types. Andrews and Goodrich Div., 336 Adams St., Boston Dorchester, Mass.

T-572 DYEING MACHINERY FOR EVERY PURPOSE. Illustrated literature available on complete line of automatically controlled machinery. Gaston County Dyeing Machine Co., Stanley, N. C.

T-576 YARN PREPARATION. Describes products for yarn preparation, printing, finishing. Polymer Industries, Springdale, Conn.

T-577 STAINLESS DRY CANS. Information on stainless steel, 75 psi, reverse dished, head dry cans. Can be furnished Teflon-coated if desired. Sims Metal Works, West Point, Ga.

T-579 AUTOMATIC GUIDING EQUIPMENT. Catalog shows various types of automatic guiding equipment for accurate cloth guiding. Fife Mfg. Co., Inc., P. O. Box 9815, Oklahoma City, Okla.

fibers and yarns

T-601 FORTISAN-36, NEW TEXTILE FIBER. Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

T-602 CAPROLAN NYLON HEAVY YARNS. Describes strength, long Dept., National Aniline Div., 261 Madison flex life and ready dyeability. Fiber Sales Ave., New York 16, N. Y.

T-603 RAYON—MILE BY MILE. Details on how rayon is produced mile by mile, perfect inch by inch. Industrial Rayon Corp., 500 Fifth Avenue, New York 18, N. Y.

T-604 THE CHEMSTRAND NYLON STORY. Describes the birth and growth of Chemstrand Nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

T-605 COLOR-FAST FIBERS. Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to colorfastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

T-606 "DIAL-A-FIBER." Ingenious circular chart indicates properties and compatabilities of "Uvitex" for application on natural and synthetic fibers. Ciba Co., Inc., Route 208, Fair Lawn, New Jersey.

T-607 THE STORY ON LUREX. Information on metallic yarns and how they are developed to broaden the scope of the weaving, knitting, braiding, tufting, embroidery, lace, quilting and wet processing industries. Specify interest. Textile Fibers Department, Product Information Service, The Dow Chemical Company, Williamsburg, Virginia.

BOOKLETS

T-608 TASLAN TEXTURED YARNS. Technical information on dyeing and finishing of new fabrics made with Taslan. E. I. du Pont de Nemours & Co., Wilmington 98, Delaware.

T-609 PROCESSING NYLON STAPLE. Data sheet describes method of processing Du Pont 42 Nylon Staple in blends with cotton. Covers complete operation through sizing. Bulletin N-93, E. I. du Pont de Nemours & Co., Inc. Wilmington, Del.

laboratory

T-701 TESTING INSTRUMENTS. Descriptions of 37 instruments for testing textiles. Custom Scientific Instruments, Inc., 541 Devon St., Kearny, N. J.

T-703 SHADOGRAPH WEIGHING DEVICES. Pictures and information on various types of scales. Exact Weight Scale Co., Columbus 8, Ohio.

T-705 STROBOTAC. Measures speed of rotating, reciprocating or other cyclic motions. General Radio Co., West Concord, Mass.

T-706 YARN COUNT SCALE. Data sheet tells how direct-reading instrument provides fast, accurate method of determining yarn number. Exact Weight Scale Co., Columbus 8, Ohio.

T-712 AUTOMATIC MOISTURE CONTROL. Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics. Hunter Controls, Inc., Div., James Hunter Machine Co., North Adams, Mass.

services for management

T-801 FACTORING SERVICE. Details on advantages of factoring, including information on general banking and pension plans. Trust Company of Georgia, Atlanta, Ga.

T-802 NON-WOVEN FABRICS. Report includes how non-woven fabrics are made, machinery involved, sample fabrics. Textile Fibers Dept., E. I. du-Pont de Nemours & Co., Inc., Wilmington 98, Del.

T-805 PROFIT THROUGH FACTORING. Brochure gives facts on the use of factoring as a modern plan for developing sound business growth and added profits. Walter E. Heller & Co., Dept. TI-2, 105 W. Adams St., Chicago 99, Ill.

T-807 GROUP INSURANCE. Information on how textile group insurance can insure the happiness of your employees and make for a better running mill. Provident Life and Accident Insurance Co., Group Dept., Chattanooga, Tenn.

T-808 FACTORING. Complete details on services offered as mill factors. L. F. Dommerich, 271 Madison Ave., New York, N. Y.

T-810 THE WONALANCET WAY is the title of an editorial booklet published five times a year dealing with current problems. Write Wonalancet Company, 128 Burke St., Nashua, N. H.

T-812 BEECHCRAFTS AT WORK. Booklet available from Southern Airways Company shows how Beechcraft executive airplanes can save executives time and money. Write Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-819 ORGANIZED LUBRICATION PAYS. Planning book entitled "Management Practices that Control Costs via Organized Lubrication" shows how to effect savings in five areas of plant operation. Available from Texaco, Inc., 135 E. 42nd St., New York 17, N. Y.

T-821 INVENTORY CONTROL. How a daily report of inventory condition mechanically produced on existing business machines showed a net direct payroll saving of more than 10,000 a year. Administrative Methods Dept., Werner Textile Consultants, 1430 Broadway, New York, N. Y.

plant operation

T-902 BELT LACING EQUIPMENT. Includes prices, specifications, etc. Clipper Belt Lacer Co., Grand Rapids, Michigan.

T-903 "MOTOR SELECTOR." How to select a-c motors for specific application. Bulletin B-2103. Reliance Electric & Engineering Co., 24701 Euclid Ave., Cleveland 17, Ohio.

T-904 GEARMOTORS, MOTORGEARS, AND FLUID DRIVES. Catalog supplies complete information on double, triple, and quadruple reduction gearmotors and motorgears. Electrofluid and fluid drives are also explained. Link-Belt Company, Dept. PR, Prudential Plaza, Chicago 1, Illinois.

T-907 WRAP UP LINT PROBLEMS. Automatic lint filter removes lint from air, winds it into disposable roll. Bulletin 234, American Air Filter Co., 275 Central Ave., Louisville 8, Ky.

T-908 TEXTILE MOTORS. Bulletin describes complete line of textile motors. Diehl Mfg. Co., Finderne Plant, Somerville, N. J.

T-909 COMPRESSORS. WB two-stage water-cooled. Space-saving units require modest foundation up to 125 psi and 1150 cfm displacement. Bulletin WB-10. Gardner-Denver Company, Quincy, Illinois.

T-910 MODERN LUBRICATION METHODS. A report to management tells how modern lubrication methods can help save thousands of dollars in three major economic areas of textile plant management. Describes twelve operating advantages of automatic lubrication systems. Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo.

T-911 LEATHER BELTING. Selection, installation, proper maintenance. Atlanta Belting Co., 508-510 Whitehall St., S. W., Atlanta, Ga.

T-912 STORY OF NYLON BRISTLE. Tells of discovery and production, with special attention to "Tynex," a form of nylon ideal for use in brushes. M. W. Jenkins' Sons, Inc., 444 Pompton Ave. Cedar Grove, N. J.

T-913 "ONE-SHOT" LUBRICATORS. Bulletin describes wide field of application for one-shot lubricators on machines requiring closely controlled but infrequent oil feed. Bijur Lubricating Corporation, Rochelle Park, N. J.

T-914 INDUSTRIAL GREASES. Describes multi-purpose lithium soap industrial greases. Sinclair Refining Co., 600 Fifth Ave., New York, New York.

T-917 BLOWERS AND EXHAUSTERS. Full description, including detailed drawings. Buffalo Forge Co., 490 Broadway, Buffalo 5, N. Y.

T-918 PAINT STRIPPING BOOKLET Explains simplified method of stripping paint. Oakite Products, Inc., 22 Thames St., New York 6, New York.

T-921 CATALOG OF NEEDLE BEARINGS. Design, application for five types of needle bearings. The Torrington Co., Torrington, Conn.

T-924 BALL BEARINGS FOR TEXTILE MACHINERY. Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

T-925 LUBRICATION OF BEARINGS. Helpful list of do's and don't to prolong bearing life. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

T-931 NEW V-BELT DRIVES. Bulletin contains information on selection and operation of V-belt drives. Covers all types of V-belt drives. Dodge Mfg. Corp., Mishawaka, Ind.

T-932 SMOOTH ACCELERATION, DECELERATION. Describes eddy-current equipment for smooth, stepless acceleration and deceleration. Eaton Mfg. Co., 3307 14th Ave., Kenosha, Wis.

T-933 CATECHISM OF ELECTRIC MACHINERY. Booklet contains complete technical treatise on various electrical machines. Electrical terms defined. Fairbanks, Morse & Co., Fairbanks-Morse Bldg., Chicago 5, Illinois.

T-937 V-BELTS. Tells how raw materials and finished belts are tested and inspected. Quality control and experimental production covered. Booklet 5-51107, Dept. 794, Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-938 EMERGENCY CHEMICAL CLEANING—Booklet tells how rust, scale and other deposits may be removed from heat exchange equipment, regardless of intricacy. Anderson Chemical Co., Inc., Box 1424, Macon, Georgia.

T-939 BOILER FEEDWATER TREATMENT. Bulletin describes BRAX-ON & FLAKO internal automatic boiler feedwater treatment and services of trained service engineers in eliminating the problems of scales, sludge, corrosion, etc. Anderson Chemical Co., Inc., P. O. Box 1424, Macon, Ga.

materials handling

T-1005 Tramrail Engineering And Application. Data on how Tramrail equipment can cut handling costs. Cleveland Tramrail Div., Cleveland Crane and Engineering Co., 1036 East 289th St., Wickliffe, Ohio.

T-1007 Materials Handling For Textiles. Shows how fibre trucks can increase efficiency, protect products. National Vulcanized Fibre Co., Wilmington 99, Del.

T-1013 Trucks Doff, Store, Become Spooler Tray. Brochure tells how mobile boxes are being used as doff boxes, storage boxes, and spooler trays on Barber-Colman spooler. Fisher Mfg. Co., Hartwell, Ga.

T-1014 Carpet Cores, Storage Tubes. Literature on simplified storage and better cores for rugs. Sonoco Products Co., Hartsville, S. C.

T-1015 Overhead Conveyor. Catalog features "Cable-Way" Overhead Conveyor which has low-cost, ease of installation, quiet operation and long life. Conveyor Division, The American Mono-Rail Co., Fourth and Franklin Sts., Tipp City, Ohio.

T-1016 Guide To Better Closures. For use as a guide for the evaluation of methods currently in use to effect economy and better production in the closure of fiber board boxes. Acme Steel Products Div., Acme Steel Co., 135th and Perry Ave., Chicago, Ill.

T-1020 Automatic Wrapping. Tells how automatic packaging increases the sales appeal of textile products. Saves labor and materials and adds tamper-proof product protection. Write Hayssen Mfg. Co., Sheboygan, Wis.

T-1021 Tubes, Bobbins, Pirns. Information on world renowned yarn carriers, reliable as to stability, dimensions, weight. Emil Adolff (U. S. A. agents: Textube Corp., 695 Summer St., Stamford, Conn).

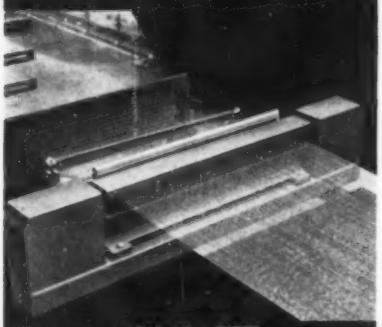
T-1022 Strong Cores. Data on lightweight, quality tubes and cores for textiles. Star Paper Tube, Inc., Rock Hill, S. C.

T-1023 Materials Handling. Describes lightweight, durable, smooth products. Spaulding Fibre Co., Inc., Dover, New Hampshire.

T-1024 Conditioning Truck. Details on all - aluminum, non - rusting conditioning truck. Excel, Inc., Lincolnton, N. C.

100% DEFECT DETECTION

BEAM AFTER BEAM AFTER BEAM



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FABRIONICS MARK II WARP YARN MONITOR

Now you can warp top quality wool, cotton, and synthetic yarns at top speed beam after beam, shift after shift, knowing that your Fabrionics Mark II Warp Yarn Monitor is detecting and counting all the yarn defects at the end of the week just as it did at the beginning. The new Fabrionics Mark II Warp Yarn Monitor not only detects and counts objectionable defects but stops the warper so they can be removed. And—the Mark II compensates instantly and automatically for changes in operating conditions and maintains constant sensitivity without daily or weekly resetting.

EXTRA AMPLIFICATION

An additional, second stage amplifier can readily be incorporated in the Mark II system to permit the counting of non-objectionable defects for quality control recording and analysis.

DETECTION OF LENGTH DEFECTS

Fabrionics engineering makes the Mark II invaluable for spun yarn as well as filament yarn inspection. The Detect-All, an easily connected accessory, makes it possible for your Warp Yarn Monitor to detect and count defects of a pre-selected length in addition to defects in diameter.

Fabrionics

WRITE for full information on the NEW FABRIONICS MARK II WARP YARN MONITOR

FABRIONICS CORPORATION
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PERSONAL NOTES

(from page 45)

Walter Roark, Jr., of Avondale Mills, Sylacauga, Ala., has been named to the engineering staff of Callaway Mills Co., LaGrange, Ga. * * * **Edwin T. Smith** has been promoted to assistant overseer of spinning at the Unity plant. **W. Harry McElveen, Jr.,** has joined the company as trainee. * * * **John M. Carroll** and **William H. Colley** are trainees at the Hillside plant.

At the annual meeting of the Troy (N. H.) Blanket Mills held recently, **Dr. Kenneth R. Fox** of Fabric Research Laboratories and **William F. Sullivan,** president of Northern Textile Association, were elected directors.

Nelson Kessell, general superintendent of Firestone Textiles, a division of The Firestone Tire and Rubber Co., Gastonia, N. C., has retired. **Francis B. Galligan,** formerly superintendent of the cotton division, has been named to succeed Mr. Kessell and has been given the new title of production manager. **Francis C. Martin** has become production manager of the synthetics division; **Philip R. Williams** is the new production manager of the cotton division; **Clyde E. Moss** has been appointed manager of textile developments; and **Homer G. Hall** has assumed his duties as synthetics division assistant manager.

E. H. Knox has been promoted to executive vice-president of Mission Valley Mills, Inc., New Braunfels, Texas. **Merlin Birdsong,** formerly assistant superintendent, has been named superintendent.

James G. Middleton, formerly general manager of the Rocky Mount and Wilson, N. C., plants of Sidney Blumenthal & Co., has assumed his duties as vice-president in charge of the manufacturing operations with headquarters in Rocky Mount, N. C.

Mr. Beckwith
Ludlow Mfg.

Dr. Weaver
Cone Mills

J. Kenneth Brown has been named assistant manager of Union Bleachery, Greenville, S. C., a division of Cone Mills Corp. **William Perry Gibert,** formerly a chemist in the laboratory, has been transferred to the preparation department and promoted to assistant supervisor of chemical mixing. * * * At the Revolution plant, **David E. Sink,** assistant overseer, second shift, warp-spinning department, has retired. * * * **Dr. J. W. Weaver** has joined the central laboratory staff of the research and development division as assistant manager of the Central Laboratory and section head of the chemical research and development section. Dr. Weaver, whose specialty is chemical properties of cotton fibers, comes to Cone Mills from Koppers Co., Inc.

Homer Carter, formerly vice-president and general manager of the Pepperell Mfg. Co. operations in Opelika, Ala., was recently cited by the Lee County (Ala.) Hospital board for his ten years of service to the institution. Mr. Carter is now executive vice-president of Pepperell with offices in Boston, Mass.

David W. Quinn has joined the Vulcan Rubber Products division of Reeves Brothers, Inc., as manager of the Grace plant near Rutherfordton, N. C. Previously, Mr. Quinn was associated with Hettrich Mfg. Co.

J. M. Cheatham, president of Dundee Mills, Griffin, Ga., has been appointed a director of the Federal Reserve Bank of Atlanta, Ga.

At a recent meeting of the board of directors of Hillsboro (Texas) Cotton Mills, **A. L. Smith, 3rd,** was elected president succeeding his father, the late A. L. Smith, Jr. Other officers elected were: vice-presidents —**Ben W. Haughton** and **Madalyn**

May 23-27, 1960

Mr. Harmon
Hanes Hosiery

Mr. Battson
William Carter

Mr. Felker
William Carter

Mr. Marshall
Roxbury Carpet

Rivers; treasurer—**William R. Smith;** and secretary—**Clyde Tomlinson.**

Arthur B. Robertshaw, Jr., was recently elected president of Timme Corp., Wilmington, N. C., succeeding **William E. Roschen,** who was named chairman of the board.

Max Whatley, formerly superintendent of Judson Mills, Greenville, S. C., a division of Cotwool Mfg. Corp., has been promoted to plant manager.

The William Carter Co. has announced the promotion of **Paul M. Felker, Jr.,** from quality control manager of the firm's three Georgia plants to quality control director with responsibility for supervising the company's six mill installations. Mr. Felker succeeds **Oliver B. Beckwith** who resigned and is now director of quality control for all plants in the Ludlow Mfg. & Sales Co. jute division. * * * **Emmett Battson** has been named superintendent of the Thomaston, Ga., division of Carter's. At one time Mr. Battson was manager of Arkansas Cotton Mills and manager of the standards department of Crompton-Highland Mills in Griffin, Ga. He succeeds James F. Pruett who resigned.

George W. Marshall has been appointed director of styling of Roxbury Carpet Co. Mr. Marshall has general supervision of all the styling activities at the company's three mills in Saxonville and Worcester, Mass., and Chattanooga, Tenn.

J. E. Cobb, formerly associated with the Cramerton (N. C.) Mills, has been appointed manager of the Gastonia (N. C.) Weaving Co. Mr. Cobb succeeds J. M. Gayle who has resigned.

Perry G. Harmon, purchasing agent for Hanes Hosiery Mills Co., Winston-Salem, N. C., has been elected a director of the Carolinas-Virginia Purchasing Agents Association.

At Gayley Mills Corp., Marietta, S. C., **A. Newton Stall, Jr.,** has been promoted to product manager succeeding **P. H. Prince,** who has joined Gerrish Milliken Mills, Pendleton, S. C., in a similar capacity.

A New York attorney, who has served on the Erwin Mills, Inc., board of directors for 12 years, **Freeman J. Daniels,** has been named chairman, succeeding the late F. E. Grier. **William H. Ruffin** was reelected president and chief executive officer of the company, and **J. S. Abney,** a director of the company, was elected to the executive committee.

At the Liberty, S. C., plant of Woodside Mills, **Bennett Hudson,** formerly assistant superintendent, has been named head of the indus-

Mr. Hudson

trial engineering department. Mr. Hudson replaces **Charles Land** who has accepted a position in the Lexington, N. C., plant of Frank Ix & Sons.

Howard B. Carlisle, Jr., personnel director of Lyman (S. C.) Printing and Finishing Co., has resigned. **Jack Crosland,** retired vice-president and general manager of the plant, has temporarily taken over the duties of Mr. Carlisle.

Daniel A. Winterbottom has been appointed divisional comptroller of the woolen and worsted division of J. P. Stevens & Co., Inc. * * * **Hugh G. Hurley,** formerly superintendent of the Seneca (S. C.) plant, has been named manager of the recently acquired Exposition Cotton Mills Co.,

ADAMS FACT FILE #2

PLANT AIR

Moisture Chief Cause of Trouble . . .

Every company today is looking for ways to offset the increased costs of labor, material, equipment and services. At a gasoline station you expect "Free Air", but in industry it is a major expense. Perhaps in your own plant, for an investment in a few minor compressed air system alterations, significant savings are possible.

Water, sludge, rust, oil and dirt in compressed air systems are prime causes of maintenance and production down-time. Water vapor condensing in air lines tends to corrode the piping. Also, water present in the piping may freeze during winter, causing serious reduction of compressed air supply. Such restrictions are often difficult to locate and thaw. This same line moisture may emulsify lube oil destroying its lubricating value and the resultant mixture has high fouling characteristics. Frequently, ice will form within the tool itself since expanding air cools the moisture . . . tool efficiency will be seriously affected.

Some of the Other Problems Created By Wet Compressed Air . . .

Wet compressed air is not only a construction and production tool problem. Faulty paint jobs, contaminated chemical and food products can often be traced to moisture laden compressed air. Waterhammer, unequal pipeline thermal expansion and line leaks also result from collected moisture. In addition, air lost through traps, and in blow-down of compressed air lines provide no useful work . . . represent a sizeable power loss.

You Can Lick Compressed Air Moisture Problem . . .

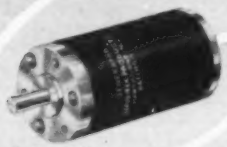
All of these hidden costs can be virtually eliminated by the installation of an Adams Aftercooler and Cyclone Separator between the compressor and receiver tank. By cooling discharge air to within 10° F. of cooling water temperature — guaranteed with Adams standard Aftercoolers — the moisture can be removed at the separator. Pressure loss is less than one-half pound on these units including the separator. In severe cases, moisture removal of over 90 per cent can be obtained by cooling the air with Adams 2° Aftercooler to within 2° F. of water temperature.

Air Filter for Final Protection at Point of Use . . .

As an added safeguard for expensive tools and equipment, an Adams Poro-Stone Air Filter should be installed just before the air is used. These filters remove all solid material picked up by the air stream. With an Adams Aftercooler, Cyclone Separator and Air Filters clean, dry, trouble-free air is supplied to your production tools. You get continuous service with minimum maintenance.

For further information on how the complete line of Adams air equipment can solve your compressed air problems, write today for your free copy of Bulletin No. 712 on Aftercoolers and Bulletin No. 117 on Poro-Stone Air Filters from the R. P. Adams Company, Inc., 216 East Park Drive, Buffalo 17, New York.

KNOW YOUR SPEED



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PERSONAL NOTES

(from page 185)

Atlanta, Ga. **George E. Glenn,** formerly president of Exposition, has been appointed assistant manager. • • • The 1960 Harold De Witt Smith Memorial Medal is to be awarded on March 3 to **Werner Von Bergen,** associate director of research for J. P. Stevens & Co., Inc., according to Committee D-13 of the American Society for Testing Materials.

Kenneth Matheson, formerly staff industrial engineer at the Mooresville (N. C.) division of Burlington Industries, Inc., has accepted the position of general manager of the Sunbury (Pa.) Textile Mills, Inc.

Raymond J. Toher has been named technical superintendent of Drayton Mills, Inc., Spartanburg, S. C. Mr. Toher succeeds **M. M. Georgian** who has been appointed industrial engineering manager.

OBITUARIES

Charles P. Drumm, 85, former president and chairman of the board of the Albany Felt Co., Albany, N. Y.

Herbert C. Ervin, 50, assistant secretary of J. P. Stevens & Co., Inc., controller of the Woolen & Worsted Div., and manager of the industrial management department of the southern group of the division, Dublin, Ga.

Otto Haas, 87, founder and honorary chairman of the board of Rohm & Haas Co., Philadelphia, Pa.

Edmund E. Hills, 89, former president of Providence (R. I.) Combing Mills.

Paul Jennings, 86, retired textile designer and mill manager, Bennington, Vt.

Daniel Walter McLemore, Sr., 84, retired superintendent of textile mills in Dillion and Chester, S. C.

James W. O'Connell, 42, sales manager of Dixie Bearings, Inc., Atlanta, Ga.

Herbert Pepler, 61, formerly general manager in charge of sales for Naushon Corp., New Bedford, Mass.

Dr. Emil Roetheli, 85, retired plant manager of the United Piece Dye Works, Lodi, N. J.

Edward G. Sayce, purchaser of yarns and threads for The William Carter Co., Needham Heights, Mass.

Erwin A. Scott, 71, retired salesman for Seydel-Woolley & Co., Atlanta, Ga.

Harold R. Turner, 62, vice-president of J. P. Stevens & Co., Inc., Greenville, S. C.

MILL NOTES

The new 46,000 sq ft Statesville, N. C., screen-printing plant of **Melville Textile Print Works, Inc.,** has enabled the firm to triple production. Located on one floor, the plant is equipped with automatic screen printing tables, plus conventional types, and can handle widths up to 72 inches.

The two Newnan, Ga., plants of **Mount Vernon Mills, Inc.,** have been purchased by C. & H. Enterprises. A portion of Mill No. 1 has been leased back to Mount Vernon Mills where the firm will continue the production of combed cotton plaids. The unused portion of the machinery in Mill No. 1 and all of the equipment in Mill No. 2 will be liquidated. The No. 2 building will be made available to new industry.

Erection of a wool scouring plant on a 200-acre tract at Baldoc, 8 miles from Allendale, S. C., is planned by **The Fred Whitaker Co.** To be known as the Allendale Wool Scouring Plant, it will be operated as a Whitaker subsidiary.

P. H. Hanes Knitting Co., Winston-Salem, N. C., and Adams Millis Corp., High Point, N. C., have formed a new selling organization which has been designated **Hanes-Millis Sales Corp.** The organization will market men's, children's, and infants' socks under the trademark Hanes Red Label. Sale of existing products manufactured by Hanes and Adams Millis will not be affected by the new company.

Modern Tufting Co., Dalton, Ga., has completed its expansion and modernization program. Two new buildings have been added, giving an additional 13,000 sq ft of space. A 15 ft individual needle control tufting machine has been installed which will enable the company to make any pattern or design. James H. Mutter, formerly with Bigelow-Sanford Carpet Co., has been appointed national sales manager.

Fulton Cotton Mills, Atlanta, Ga., has further diversified its operations

by purchase of Ainsworth-Precision Castings Co., a division of Harsco Corp., Harrisburg, Pa. A major producer of die castings, stampings, and machine parts for the automotive, furniture, appliance, and electronic industries, the company will operate as Precision Castings Co. and Ainsworth Mfg. Co., both divisions of Precasco Corp., a newly formed Fulton subsidiary.

Dan Pressman, president of Prestex, Inc., and Alan W. Stein, formerly with Travis Fabrics, have formed a new textile converting firm, **Daltex, Inc.** The company will serve the menswear and outerwear trades.

Acclaim Hosiery Mills, Inc., High Point, N. C., and **Liberty Hosiery Mills, Inc.,** Gibsonville, N. C., have merged operations and sales.

The **Oneita Knitting Mills** of New York City and Andrews, S. C., has started construction on a new addition to the plant in Andrews, according to Lockwood Greene Engineers, Inc., architects and engineers for the project. This addition will provide space for their 100-machine circular knitting mill now located across town and a completely modern bleachery and dye house for circular cotton knit fabrics. The addition of 24,000 sq ft, with equipment, is estimated to cost approximately $450,000 to $500,000 when completed and will integrate all their manufacturing operations in one building.

The Grace plant of **Reeves Bros., Inc.,** near Rutherfordton, N. C., has been reactivated for the production of plastic coated fabrics. The plant is being operated as part of the firm's Vulcan Rubber Products division. David W. Quinn is manager.

A full-fashioned sweater manufacturing firm will occupy the 21,000 sq ft building in Hickory, N. C., to be vacated soon by **Southern Elastic Corp.** The new concern, yet unnamed, is headed by W. D. Schey of New York.

Increased capacity resulting from a new modernization program will cause **The American Thread Co.** to discontinue operations at the Troutman, N. C., mill within the next two or three months, a recent announcement stated. The work currently being performed at Troutman will be absorbed by other plants of the company. The mill has been purchased by Troutman Shirt Co.

A major expansion program which will include an 80,000 sq ft addition to the Spindale, N. C., plant has been announced by **Stonecutter Mills Corp., Inc.** 400 more looms will be installed, and employment will be increased by about 200.

J. P. Stevens & Co., Inc., has acquired Exposition Cotton Mills Co., Atlanta, Ga. The plant will become a part of the Utica Mohawk group of the cotton division.

208 new 50-inch-wide looms have been installed in the new, air-conditioned addition to the No. 2 mill building of **Spartan Mills,** Spartanburg, S. C. Corduroy is being woven on them.

A new firm, **Wis-Knit-Wear Co., Inc.,** has leased for operation the facilities of the recently closed Marinette (Wis.) Mills. Harmon Juster is president and general manager; W. P. Tittlie is superintendent.

The **Playfair Knitting Mills, Inc.,** Montreal, Canada, has been acquired by **Jonathan Logan, Inc.,** New York. The mill will be operated as a subsidiary of the firm under the name of Playfair Knitting Mills (Canada) Ltd.

Buck Creek Cotton Mills, Starkville, Miss., has launched a $100,000 program to complete the modernization which was started in 1957. All processing machines with the exception of the carding equipment will be replaced. Upon completion, about 50 additional persons will be employed for a full third shift operation.

Berkshire-Hathaway, Inc., has discontinued marketing of finished goods to the apparel trade. The company continues to market a full line of finished synthetic fabrics. Production of grey cotton goods and cotton blends is also unchanged.

A $25,000 expansion program which increased the facilities of the nylon tricot department of **Natona Mills, Inc.,** Dallas, Pa., has been completed. Approximately 25 persons have been added to the payroll.

The **Standard-Coosa-Thatcher Co.,** Chattanooga, Tenn., has completed installation of a second 1200-lb capacity high-temperature package dyeing machine and a new type dryer at a cost of more than $150,000.

A 27-acre tract of land near Valdese, N. C., has been purchased by **Ivey Weavers, Inc.** No immediate

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MOISTURE REGISTER'S MODEL 5 checks moisture accurately in almost every known textile. Any untrained operator can use it effectively – in any stage of production – on cones, beams, skeins; loose or compressed yarns and fibers; Wool, Cotton, Nylon, Rayon, Dacron, Orlon, etc.

It can be calibrated on the spot by plugging the test electrode into the self-checking standard . . . then trimming to zero if necessary. It's always right on the money.

Model 5 features:

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Please send data on new Model 5's.

We are testing _____

in moisture range from ____% to ____%

Firm _____

By _____ Title _____

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MILL NOTES

(from page 187)

plans for use of the property have been announced by the company.

The Haynsworth plant of **Woodside Mills** completed the year of 1959 without a single lost-time accident.

Cortley Fabrics, a subsidiary of Cone Mills Corp., has acquired Townbrooke Fabrics, Inc., which will continue under present management from new offices adjacent to Cortley Fabrics at 1407 Broadway.

The properties of Nu-Vogue Hosiery Mills, Graham, N. C., have been purchased by **Kayser-Roth Hosiery Co., Inc.** Plans call for the renovation of the building which is located across the street from the throwing and box operations of the firm.

The Jacquard weaving operations of Ansonia Mills, Inc., Taunton, Mass., have been acquired by **Fairfax Mills,** a division of Hirsch-Werner Corp.

A new industrial fabric processing and finishing firm, **Fowler-Mohawk Corp.,** has moved into the Schuyler Street plant formerly occupied by Quality Heels in Dolgeville, N. Y. William Max Fowler heads the new firm.

Cramerton Mills, a division of Burlington Industries, Inc., has awarded a contract for a 50,000 sq ft addition to the Mayflower plant. The new addition will provide warehousing space, new yarn dyeing facilities, and will include a loading dock and elevator.

Camp and McInnes, Reading, Pa., have announced plans to add 10,000 sq ft to the recently purchased 35,000 sq ft Pentagon Hosiery building. [It was erroneously reported in the January issue (page 163) that the building contained 3,000 sq ft of space.—The Editors]

Fairlane Knitting Mills of North Carolina, Inc., Gastonia, N. C., has been purchased by Saul Mandel, and new equipment has been installed to increase capacity for production of men's sport shirts and sweaters by 75 per cent.

An expansion program which will involve expenditure of approximately $225,000 and will include the installation of 60 additional seamless hosiery knitting machines has been announced by **Stanly Knitting Mills,** Oakboro, N. C.

Hanes Dye & Finishing Co., Winston-Salem, N. C., distributed $50,600 in Christmas bonuses to 350 employees, the biggest bonus in the history of the company.

The seamless knitting machines and seamless looping machines purchased by **Berkshire Knitting Mills** from Wytheville Knitting Mills will be installed in the Andrews, N. C., plant to increase production of the seamless hosiery division.

A second floor addition is under construction at the southern end of **Randolph Mills, Inc.,** Concord, N. C., to alleviate the crowded conditions in that part of the mill.

Several new machines for the manufacture of stretch yarns have been installed in the Luray (Va.) Textile Division of the **Schwarzenbach Huber Co.**

An expansion program designed to increase production capacity 30 per cent has been launched at **Anglo Fabrics Co.,** Webster, Mass. Plans include new equipment for finishing, the addition of worsted spinning frames, and the construction of new buildings. An April completion date has been scheduled.

See You in Atlantic City May 23-27

American Textile Machinery Exhibition

For complete preview of the show, see TI for May

For list of exhibitors when this issue went to press, see page 78

SUPPLIER NOTES

Herbert E. Allen, assistant sales manager of the textile fibers department and product manager for Lurex metallic yarn of the **Dow Chemical Co.**, has retired. Robert E. Droney has been named to succeed Mr. Allen as product manager for Lurex. * * * Alfred N. Baldassarri has been appointed administrative assistant to the New York fibers sales office manager.

Controlling interest in the **U. S. Textile Machine Co.** has been purchased by officers of the firm who are: president—A. W. Thomas, Jr.; vice-presidents—Pacific J. Thomas, Jerome D. Gleitz, and Chester Loveland; secretary-treasurer—Donald W. Scheuer. * * * The company has announced the formation of Utex Products Division to handle sales and distribution of the company's line of yarn processing equipment as well as a complete line of complementary machines and supplies, including belting. The division has been granted sales rights for the yarn converting equipment manufactured by the Barmag Co. of Germany (Barmer Maschinenfabrik A. G.), Marquette spindles manufactured by Marquette division of Curtiss-Wright Corp., and McHale flyers, made by the M. J. McHale Co.

J. Marshall Gayle, formerly general manager of Gastonia Weaving Co., is now associated with **Watson & Desmond Machinery Co.** and **Watson & Desmond, Inc.**

The new and modern Charlotte, N. C., plant of **Mount Hope Machinery Co.** is under construction. Complete facilities for the manufacture and servicing of all of the company's products will greatly expedite new installations and service. Located on Ross Drive, the building will be completed in the spring. It will also house the firm's southern sales office which is under the direction of Slaughter Machinery Co.

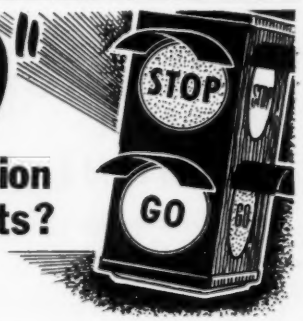
Plans for construction of additional manufacturing and office facilities at the No. 2 plant in Danville, Ill., have been announced by **Hyster Co.** The enlarged facility will provide area for substantial future growth of industrial truck manufacturing.

A new distributing center for the **Becco Chemical Division** of Food Machinery and Chemical Corp. is under construction in Lyndhurst, N. J. The new center, which is expected to be completed by May 1, will replace the facilities in Jersey City and will result in faster deliveries to customers in Metropolitan New York and the Middle Atlantic states.

Now on stream at the **Penick & Ford Ltd., Inc.**, corn refining facility at Cedar Rapids, Iowa, is a plant which increased the firm's food and industrial starch production capacity 40 per cent. Also recently completed was a new laboratory building where

Among the many features of Penick & Ford's new starch manufacturing plant is a huge dry blender that is said to deliver completely uniform batches of starch in carload lots. Here, a technician takes a sample of starch from the blender for a routine quality check.

IS "STOP and GO" Production Robbing You of Profits?



"Stop-and-go" production of cloth is costly . . . and unnecessary when the stoppages are due to the fabric guiders. No two fabrics can be handled exactly alike. But you can eliminate a lot of time and expense by installing

MECHO AIR GUIDERS

With Mecho on the job, you can quickly adjust for the lightest fabric or #8 duck *while in operation.* . Once set, it will maintain constant cloth alignment and guide within 1/8 inch. It can't spatter or turn a double edge . . . and there are no weights or levers to fuss with. No repair problem, either.

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For further information use Handy Return Card, Page 179

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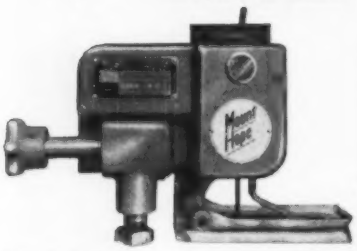

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BREAKING
of your . . .
SPOOLS AND BOBBINS

Send Us Your Problems:
We Will Cooperate
— To Save You Money.

TEXTILE SHIELD CO., INC.
LAWRENCE, MASS., U.S.A.
SERVING NEW ENGLAND SINCE 1917

SUPPLIER NOTES

(from page 189)

research activities are being stepped up considerably. The building also houses a sales-service laboratory devoted to special problems and needs of customers.

At a recent meeting of the board of directors of **Rohm & Haas Co.**, Dr. Ralph Connor was elected chairman of the board, Dr. F. O. Haas was named president, and John C. Haas was elevated to vice-chairman of the board.

Stephen P. Sayewich, formerly sales engineer for the Brinton division, has been transferred to the New York sales office of **Scott & Williams, Inc.**, to cover the New York and New England area.

Facilities and equipment of the **L. C. Smith Bobbin Works**, Phillipsburg, N. J., have been purchased by **Akron Spool & Mfg. Co.** and moved to the recently enlarged plant at High Point, N. C. Former customers of L. C. Smith will be served by Akron from the plant in High Point.

Southern Dyestuff Co., a division of American Marietta Co., has awarded contracts for two new buildings which will be used for laboratory space and office facilities.

Over 30,000 stickers promoting textile products "made in U. S. A." were distributed within the textile industry during 1959, **Stowe-Woodward, Inc.**, has announced. The colorful stickers, which say "Made in U. S. A.—Gives quality you can trust," are available without charge in reasonable quantity. Large quantities are offered at cost as a public service by the company.

The Torrington Co. has been named distributor for flat parts for all **Scott & Williams, Inc.**, knitting machines. According to the announcement, the purpose of this arrangement is primarily to effect prompt delivery of these parts. A complete stock of the parts will be maintained in Torrington branch offices.

The factoring department of **The Trust Company of Georgia** reported for 1959 purchases of $97,000,000 and gross income exceeding $1,300,000. Both of these figures were said to be new highs for the department.

Edward L. Donovan, formerly president and general manager of the Textile Chemicals Corp., has been named manager of the chemical department of **United Aniline Co.**

Continental Gin Co. has named Charles Merkel vice-president in charge of the U. S. Department of Agriculture cotton ginning laboratory in Leland, Miss.

Norman C. Casey has been appointed merchandising manager for home furnishings for **Courtaulds (Ala.), Inc.** Mr. Casey will report directly to Homer M. Carter, Jr., marketing and merchandising manager.

Oscar Payne, vice-president of manufacturing for **Crompton & Knowles Corp.**, has retired. Mr. Payne has been responsible for 148 patents on weaving machines for the company, in addition to other patents.

Dixon Corp. has purchased the complete machine shop facilities of the **Southern Spindle & Flyer Co.**, Charlotte, N. C., and has taken over plant operations. Southern Spindle & Flyer will retain its name and continue the moving, overhauling, and trucking of textile machinery under present management. According to R. R. Miller, president of Dixon Corp., the addition of machinery and buildings at the Charlotte location will augment Dixon's capacity for the manufacture and repair of bottom steel rolls for their spinning drafting changeovers, and will provide closer, more convenient sales and service facilities for Dixon customers in the south.

The board of governors of the Federal Reserve System has redesignated Walter M. Mitchell, of **Draper Corp.** as chairman of the board of directors of the Federal Reserve Bank of Atlanta and Federal Reserve Agent for 1960. Mr. Mitchell, who is vice-president and a director of Draper, has also been elected to serve in 1960 as chairman of the Conference of Chairmen of the 12 Federal Reserve Banks.

E. I. du Pont de Nemours & Co., Inc., has entered into a one-year agreement with the Binks Manufacturing Co., and the Greenville (S. C.) Steel & Foundry Co. to develop equipment and processes required to facilitate its recently developed "Unifog" spray process for applying finishing agents to textiles [T.I. for Jan., 1960, p. 99]. Under the agreement, **Binks Mfg. Co.** will develop nozzles and control equipment required for

Mr. Doyle
Emery

Mr. Dougherty
Emery

Mr. Cox
Leesona

Mr. Stevenson
Ciba

Mr. Hollis
Ciba

Mr. Whitt
Ciba

spray applications of dyes and treating agents. **Greenville Steel & Foundry Co.** will develop and provide equipment required for handling of textile materials under the new process, and Du Pont will furnish chemical treating agents required for use in the process.

M. R. Snyder Co., 304 E. Tremont Ave., Charlotte, N. C., has been appointed sales representatives in North and South Carolina for **Durant Manufacturing Co.** * * * Durant has established an industrial counter repair center with Pacific Coast Instrument Co., at 256 Mission St., San Francisco.

Harry Walker Smith has been named assistant manager of sales service (staple fibers) for **Eastman Chemical Products, Inc.**

J. Alan Nasmith, head of export sales at **Leesona Corp.**, has been appointed to the board of Leesona-Holt, Ltd., European subsidiary of the firm. In his new capacity as joint managing director in charge of sales, Mr. Nasmith will be headquartered in the company offices in England. Named to succeed Mr. Nasmith was Richard P. Newell who was formerly associated with Saco-Lowell Shops. * * * Ralph S. Cox has been appointed supervisor of parts sales to succeed Thomas F. Curran who has retired.

L. Paul Dougherty and Jack Doyle have joined the organic chemical sales staff of **Emery Industries, Inc.** Mr. Dougherty has been assigned to the New England sales territory and Mr. Doyle to West Virginia, southeastern Ohio, western Pennsylvania, and western New York state.

To further expand and intensify southern district sales and technical services of **Ciba Company, Inc.**, C. O. Stevenson has been promoted to sales manager of the southern district. George Anderson has been assigned as sales representative for the Georgia area, and John Clark has been named as sales representative for the South Carolina territory. Neely McFadden Hollis and J. C. Whitt have joined the sales and technical service staff, operating out of the Charlotte headquarters. * * * Clyde L. Miller, Jr., has been transferred from the dye group to the chemical specialties division. Peter A. Cook and Clinton A. Dyer have been assigned to that division's sales and technical service department.

Thornton Kennedy, president of **Davidson-Kennedy Associates, Co.**, has been elected to membership in The Young Presidents' Organization. A man must have risen to the presidency of a sizeable corporation while still in his "twenties" or "thirties" to qualify for membership in this organization.

A world-wide textile service organization, Fiber Process Associates (FIPROA), has been formed by **Proctor & Schwartz, Inc.** The Kuljian Corp., and Sociedad Nacional Industrias Aplicaciones Celulosa Espanola, a Spanish rayon producer. The new corporation will engage in marketing the Kuljian continuous rayon spinning and processing machine which automatically makes filament rayon from viscose solution

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4

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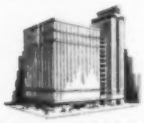

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Carling Dinkler, President
Carling Dinkler, Jr., V. P. and Gen. Mgr.

DINKLER HOTELS

SUPPLIER NOTES

(from page 191)

in three minutes. In addition, the firm will design and construct new or modernized rayon plants fully equipped with Kuljian machines, as well as provide initial operating services for such installations. The exclusive world-wide licenses to build Kuljian machines and to apply Kuljian patents to all types of fiber-processing have been obtained by Proctor & Schwartz.

Henry J. Chanon has been appointed manager of Carolina sales district of the large lamp department of **General Electric Co.** Mr. Chanon succeeds Glenn E. Park, who continues in a consulting capacity until his retirement August 1.

William H. Jefferson has been appointed vice-president and general sales manager of **General Latex & Chemical Corp.**

The Virginia Cellulose Department of **Hercules Powder Co.** has established a new sales office in the Wachovia Bank building at Charlotte, N. C. The sales and technical service of CMC, CMC warp size, and cotton linters in the southeast will be handled by the new office. George S. Baird is in charge.

Hobourn Aero Components, Ltd., of England has established offices at 406 Schuyler Apartments, South Church St., Spartanburg, S. C. The firm manufactures equipment for mills licensed by Deering Milliken Research Corp. to make Agilon yarns.

Holt Associates, Inc., has been formed in Greensboro, N. C., as the successor corporation to R. E. L. Holt, Jr., and Associates, Inc., and the firm will sell the same lines as its predecessor corporation. President of the new firm is James G. Skinner; executive vice-president is David R. Sellars; vice-presidents are Mrs. R. E. L. Holt, Jr., and John P. Norman.

Paul G. Mansuy has been appointed sales manager in charge of the nationwide sales force of the **Huyck Felt Co.,** a division of Huyck Corp. Mr. Mansuy succeeds Arthur S. Hayeslip, who recently was named vice-president in charge of sales.

Roy D. Faigenbaum has been appointed sole agent in the U. S. for sinkers, dial transfer jacks, cylinder, pattern and drum jacks, and other parts manufactured by William Mitchell, Ltd., Smethwick (Birmingham), England. Charnwood Engineering Co., Ltd., Leicester, England, has appointed the firm sole agent for its double ended latch needles used in Komet machines.

Another quality control device, an optical comparator, has been installed by **Ferguson Gear Co.** With this instrument the company is now able to designate gear tolerances to most exacting manufacturing specifications, according to the announcement.

At the annual meeting of the **Industrial Truck Association** held in New York recently, Philip S. Hill, executive vice-president of the Hyster Co., was elected president; and Roy L. Wolter, general manager of Automatic Transportation Co., was elected vice-president.

James H. Beaumont has been appointed assistant manager of the corn division of the **A. E. Staley Manufacturing Co.** John N. DeBoice has been named to succeed Mr. Beaumont as public relations director. * * * The market development division has named Roy H. Boggs textile section leader.

Allied Chemical Corp., has announced plans to triple production of Golden Caprolan nylon-6 yarn for automobile tires.

Allis-Chalmers Mfg. Co. has announced that **Machinery Sales Corp.** of new Bedford, Mass., has been assigned the trademarks Magic-Grip and Magi-Key and that the receiving firm will manufacture and sell Magic-Grip sheaves and bushings as a standard item.

Royce L. Cannada has joined the **Louis P. Batson Co.** as a textile products representative. Located in the Greenville (S. C.) offices, Mr.

Cannada will be responsible for the specifications of items, the processing and following up of orders from mills, and development of new textile products.

Mr. Therrien
Putnam

Mr. Wyman
Putnam

Mr. Young
Putnam

Mr. Lavoie
Wica

Russell C. Taylor has been named Pacific regional manager of **American Air Filter Co., Inc.,** with headquarters in San Francisco.

Thomas M. Ripley has been appointed a field technical service representative for the Fibers Division of **American Cyanamid Co.** Mr. Ripley was formerly associated with Klopman Mills.

Allen J. Reinert, formerly Philadelphia district manager of **American MonoRail Co.,** has been promoted to eastern division sales manager. David A. Bollinger, formerly sales engineer of the Cleveland district, has been named to succeed Mr. Reinert. George S. Fell and Jack Karcher have been appointed sales engineers in the Cleveland district. Owen E. Grady, formerly sales engineer in the Los Angeles area, has been appointed manager.

Wilson F. Hurley and Henry W. Harrison of Hurley & Harrison, Inc., Greenville, S. C., have been appointed representatives for **Garland Manufacturing Co.** The firm will handle customer relations and sales for all Garland textile products.

George G. Stier has been elected president of **Nopco Chemical Co.,** succeeding Ralph Wechsler who was named chairman of the board. Mr. Wechsley succeeds Thomas A. Printon, who will continue as a director and member of the executive committee. Harry A. Batley has been named executive vice-president; and G. Daniel Davis, president of Jacques Wolf & Co., was elected vice-chairman of the board.

George D. Grogan has been named general sales manager of the industrial chemicals division of **Pennsalt Chemical Corp.** Mr. Grogan succeeds George R. Lawson, who has been appointed general manager of the specialties division. W. G. Kayser, Jr., has been named to the newly-created post of sales manager of organic chemicals. Arthur F. Bixby has become manager of sales for the division. Melbourne P. Binns has assumed his duties as a product manager.

Mr. Hurley
Mr. Harrison
Hurley & Harrison, Inc.

The High Point, N. C., branch of **Minnesota Mining and Manufacturing Co.,** has moved into their newly-completed building at 2401 Brevard St., in southwest High Point.

E. P. Lavoie has joined **Wica Chemicals, Inc.,** as general sales representative.

J. L. Wyman has been named southern sales manager of **Putnam Chemical Corp.,** with headquarters in Charlotte, N. C. L. E. Therrien has been appointed technical sales representative for South Carolina with offices in Greenville, and J. B. Young has become southern technical service representative, with headquarters in Charlotte.

Jerome B. Edelman has been appointed a knitting specialist in the merchandising department of **The Chemstrand Corp.** Mr. Edelman is a former associate of Premier Knitting Co. He will be concerned with the expanded program for sweaters of 100 per cent Acrilan. * * * Theodore D. Betsch has been appointed consumer products technical specialist in the consumer products service department of the company.

William F. Ferrazano has been appointed product manager of textile dyes for the **National Aniline Division** of Allied Chemical Corp.

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Originators and Leading Manufacturers of Static Eliminators ..... since 1909

CORRECTION

In our advertisement appearing on page 110 of the January, 1960, issue of this magazine, we announced that we had been appointed sole U.S.A. agents for Societe Alsacienne de Constructions Mecaniques of Mulhouse—SACM.

Actually, we are to handle SACM's cotton equipment and whatever synthetics equipment fits into the cotton system. We will also handle the SACM automatic screen printing carriage.

The rest of the SACM line, including woolen and worsted machinery, will continue to be handled in the U.S.A. by Atkinson, Haserick & Co., Inc., of Framingham, Mass.

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ADVERTISER'S INDEX

A

Acme Steel Co. ..... •
Adams Co., Inc., R. P. 185
Air Reduction Co., Inc. ..... •
Akron Spool & Mfg. Co. ..... •
Aldrich Machine Works 17
Allen Beam Co. 168
Allen-Bradley Co. 10
Allen Company, Inc. ..... •
Allen Sons' Co. Div., Wm. 164
Allied Chemical Corp.
National Aniline Div., Fibers Sales & Service 114
National Aniline Div. 41
Nitrogen Division ..... •
Semet Solvay Petrochemicals Div. 23
Solvay Process Div. 39
Allis Company, Louis 72
American Air Filter Co. ..... •
American Enka Corp. ..... •
American Gas Association ..... •
American Moistening Co. 7
American MonoRail Co., Inc. 110
Conveyor Division ..... •
American Steel & Wire ..... •
American Viscose Corp. 48, 49
Anderson Chemical Co., Inc. .. 15
Anheuser-Busch, Incorporated 177
Antara Chemicals, General Aniline & Film Corp. ..... •
Applied Engineering Co. ..... •
Armstrong Cork Co. 112, 113
Arnold, Hoffman & Co. ..... •
Atlanta Belting Co. ..... •

B

Bahnson Co. 21
Barber-Colman Co. (Textile Div.) 66
Batson Co., Louis P. ..... •
Baxter Corporation 152
Becco Chemical Division 2
Bemis Brothers Bag Co. ..... •
Bendix Aviation Corp. ..... •
Benjamin Booth Co. ..... •
Bijur Lubricating Corp. ..... •
Borne Chemical Co. ..... •
Brook Motor Corp. 191
Buffalo Forge Co. 59
Buffalo Pumps, Inc. ..... •
Butterworth & Sons Co., H. W. ..... •

C

Carbic Hoechst Corp. ..... •
Carter Traveler Co., Div. A. B. Carter, Inc. 128
Celanese Corp. of America & Subsidiary Cos. ..... •
Central Motors Lines, Inc. ..... •
Cen-Tennial Cotton Gin Co. .. 160
Chandler Machine Co. ..... •
Chemstrand Corporation (Acrilan) ..... •
Classified Ads 194
Cleveland Tramrail Division, The Cleveland Crane & Engr. Co. ..... •
Clinton Corn Processing Co. ..... •
Clipper Belt Lacer Co. ..... •
Coats & Clark's Sales Corp. .. •
Cocker Mach. & Fdry. Co. ..... Front Cover
Colgate-Palmolive Co. ..... •
Columbia-Geneva Steel ..... •
Cone Mills Corporation 124
Corn Products Sales Co. ..... •
Courtauld's, Ltd. 76
Crompton & Knowles Corp. .. •
Crown Chemical Corp. ..... •
Curlator Corp., Textile Div. •
Curtis & Marble Machine Co. ..... •
Custom Scientific Instruments, Inc. 166

D

Darnell Corp., Ltd. 187
Dary Ring Traveler Co. 171
Davis & Furber Mach. Co. ..... •
Dayton Rubber Co. 46, 47
Deublin Company ..... •
Diamond Crystal Salt Co. ..... •
Diehl Mfg. Co. ..... Second Cover
Dinkler Hotels 192
Dixie Bearings, Inc. 36
Dixon Corporation 120
Dodge Mfg. Corp. ..... •
Dommerich & Co., L. F. ..... •
Dow Chemical Company Lurex Division ..... •
Draper Corporation 1, 13
Dronsfield Bros. Ltd. ..... •
Duesberg-Bosson of America 173
Du Pont de Nemours & Co., Inc., E. I. (Electrochemicals Dept.) 56, 57
Du Pont de Nemours & Co., Inc., E. I. (Finishes Div.) ..... •
Du Pont de Nemours & Co., Inc., E. I. (Textile Fibers Div.) ..... •
Durant Mfg. Co. ..... •
Duverre, Inc. 168

E

Eastern Engineering Co. 172
Eastman Chemical Products, Inc., Chemicals Div. 37
Eastman Machine Co. 174
Eaton Mfg. Co., Dynamatic Div. ..... •
Esso Standard, Division of Humble Oil & Refining Co. 18
Exact Weight Scale Co. ..... •
Extremultus, Inc. ..... •

F

Fabrionics Corp. 184
Fafnir Bearing Co. ..... •
Fairbanks, Morse & Co. ..... •
Faultless Caster Corp. ..... •
Ferguson Gear Co. ..... •
Fiber Controls Corp. 165
Fife Mfg. Co. ..... •
Fisher Mfg. Co., Inc. ..... •
Foster Machine Co. 50
Foster Machine Co. (Lindly Div.) ..... •
Foxboro Company 34
Franklin Process Co. ..... •

G

Gardner Denver Co. ..... •
Garland Manufacturing Co. ..... •
Gates Rubber Co. 144
Gaylord Container Corp. 135
Geigy Chemical Corp. Geigy Dyestuffs Div. 6
General Dyestuff Corp. 125, 126
General Radio Co. ..... •
Gessner Co., David ..... •
Goodrich Chemical Co., B. F. 132
Goodyear Tire & Rubber Co., Inc., Chemical Prod. 5, 28, 29
Graton & Knight Co. ..... •
Gray Company, Inc. 166
Guider Specialty Co. 189
Gulf Oil Corp. ..... •

H

Harshaw Chemical Co. 33
Heller & Co., Walter E. ..... •
Hercules Powder Company ... 122
Herr Mfg. Co. 25
Houghton & Co., E. F. ..... •
Howard Bros. Mfg. Co. ..... •
Hubinger Co. ..... •

I

Ideal Industries, Inc. ..... •
Ideal Machine Shops ..... •
Industrial Dryer Corp. ..... •
Industrial Heat Engineering Co. ..... •
International Salt Co. 68
Interstate Textile Equipment Co., Inc. 194

J

Jacobs Northern Div., E. H. •
Jenkins Metals Shops, Inc. 166
Jenkins' Sons, M. W. ..... •
Johnson Bronze Co. 169
Johnson Corp. 173

K

Keever Starch Company 150
Kennett Materials Handling Division National 16
Kidde Textile Mchy. Corp. 146
Klauder Weldon Giles Machine Co. 22
Koppers Company, Inc., Chemicals & Dyestuffs Div. ..... •

L

Laurel Soap Mfg. Co. 162
Leesona Corporation 54, 55
Lestershire Spool Division National Vulcanized Fibre Co. 12
Lincoln Engineering Co. 27
Link-Belt Co. ..... •
Livermore Corp., H. F. ..... •
Livingston & Haven, Inc. ..... •
Lockwood Greene Engineers Inc. ..... •
Loper Co., Ralph E. 168
Ludell Mfg. Co. 156
Lunkenheimer Co. 31

M

M-B Products Co. ..... •
Maguire & Co., Inc., John P. 164
Marlin-Rockwell Corp. ..... •
Marshall & Williams Corp. .... •
McBride Co., Inc., Edward J. 70
McDonough Power Equipment, Inc. 174
Meadows Mfg. Co. 64
Merrow Machine Co. 161
Mill Devices Co., Div. A. B. Carter, Inc. ..... •
Miller Corporation, Harry .... •
Milton Machine Works, Inc. .. •
Minneapolis-Honeywell Regulator Co., Industrial Div. ..... •
Minnesota Mining & Mfg. Co. ..... •
Minnesota Paints, Inc. ..... •
Moisture Register Co. 188
Monsanto Chemical Co. ..... •
Monticello Bobbin Co. ..... •
Moretex Chemical Co. 167
Morton Machine Works 42
Morton Salt Co. 53
Mount Hope Machinery Co. 163, 190

N

National Ring Traveler Co. 175
National Starch Prod., Inc. 35
National Tube ..... •
National Vulcanized Fiber Co. 12, 16
Nemo Industries, Inc. ..... •
New York & New Jersey Lubricant Co. ..... •
Nopco Chemical Co. ..... •

O

Oakite Products, Inc. 174

P

Pabst Brewing Co. ..... •
Parks-Cramer Co. ..... •
Patterson-Kelley Co., Inc. ..... •
Penick & Ford, Ltd., Inc. ..... •
Pennsalt Chemicals Corp. ..... •
Perfecting Service Company .... •
Perkins & Sons, Inc., B. F. .... •
Pneumafil Corp. ..... •
Polymer Industries, Inc. ..... •
Portland Co., The 193
Proctor & Schwartz, Inc. ..... •

R

Radio Corp. of America ..... •
Red-Ray Manufacturing Co., Inc. ..... •
Reiner, Inc., Robert ..... •
Reliance Elec. & Engr. Co. 134
Republic Steel Corp. ..... •
Rhoads & Sons, J. E. 24
Richards-Wilcox Mfg. Co. ..... •
Ridge Tool Company ..... •
Robbins & Myers, Inc. 38
Robert & Co., Associates, Inc. 196
Roberts Co. 9
Rohm & Haas Company 74
Royce Chemical Co. ..... Fourth Cover

S

Saco-Lowell Shops 148
Sandoz, Inc. ..... •
Sargent's Sons Corp., C. G. 20
Scheer Tumico Co. 174
Scholler Bros., Inc. ..... •
Service Recorder Co., The ..... •
Servo-Tek Products Co., Inc. 186
Seydel-Woolley & Co. 11
Shell Chemical Corp. 143
Shell Oil Co. ..... •
Signode Steel Strapping Co. .. 130
Simco Company ..... •
Sims Company ..... •
Sims Metal Works 116
Sinclair Refining Co., Inc. 40
Sirrine & Co., J. E. ..... •
SKF Industries, Inc. ..... •
Sonoco Products Co. 19
Southern Airways Co. 62
Southern Shuttles Div. 8
Southern Sizing Co. 169
Southern States Equip. Corp. 44, 45
Southern Textile Works 194
Spraying Systems Co. 164
Square D Company 43
Staley Mfg. Co., A. E. 58
Standard Chemical Prod., Inc. ..... •
Standard Oil Co. (Kentucky) ..... •
Star Paper Tube, Inc. 172
Statikel, Inc. 194
Stauffer Chemical Co. 26
Steel Heddle Mfg. Co. 8
Stover Co., Charles G. 194
Stowe-Woodward, Inc. ..... •

T

Taylor Instrument Companies ..... •
Tennant Co., G. H. 30
Tennessee Coal & Iron ..... •
Tennessee Corp. ..... •
Terrell Mach. Co., Inc. 60
Texaco, Inc. ..... •
Textile Industries 152
Textile Machine Works 136
Textile Paper Products, Inc. .. •
Textile Shield Co. 190
Theiler Corp., H. J. 170
Toledo Scale Company ..... •
Ten-Tex Corp. 171
Torrington Co., The 138
Trust Company of Georgia ..... •
Turbo Machine Co. 140, 141
Tyer Rubber Company ..... •

U

U. S. Steel Corporation, Stainless Steel Division ..... •
Universal Winding Co. 54, 55
Uster Corporation ..... •

V

Veeder-Root, Inc. .. Third Cover

W

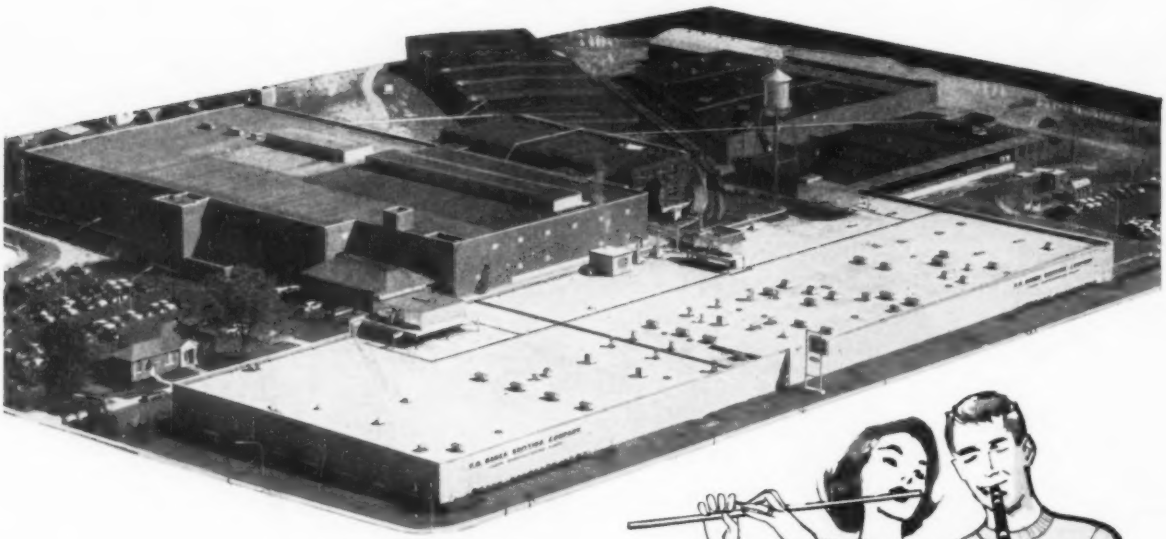
Want Ads 194
Ward Steel Company 194
Warner & Swasey Co. 14
Watson & Desmond ..... •
West Point Fdy. & Mach. Co. 118, 119
Westvaco Chlor-Alkali Division, Food Machinery & Chem. Co. ..... •
Whitehead Die Casting Co. .... •
Whitin Machine Works 32
Whitinsville Spinning Ring Co. 170
Whitney Chain Co. ..... •
Wildman-Jacquard Co. ..... •
Wonalancet Company 172

Y

Young Aniline Works, Inc. .... •
Young Machine Co., F. A. ..... •

NEW WINSTON SALEM PLANT

PRODUCES FABRICS FOR HANES *Knitwear for the family*



When the P. H. Hanes Knitting Company faced the problem of increasing production to meet the growing demand for their "Knitwear for the Family," Robert and Company Associates were called on to make a thorough study of Hanes' present facilities. Finding existing facilities inadequate for additional production, a new plant adjacent to Hanes' yarn mill in Winston-Salem was recommended.

This modern, 126,000 square foot plant, complete with power plant, central station humidification and air conditioned offices is intregrated with the existing yarn mill. The combined operation includes facilities for spinning, winding, yarn storage and conditioning, knitting, cloth storage, bleaching, dyeing, finishing and shipping.

If your plans call for increased productivity and efficiency, draw on Robert and Company Associates' 42 years of experience in serving the great names of the textile industry.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

Veeder-Root Pick Counters help boost Weave Room Efficiency

Here's what a few users of Veeder-Root Pick Counters say:

"We make pick-counter readings each day for each shift — it stimulates continued interest in the work — it enables us to spot sub-standard production and make immediate correction."

"Weaver efficiency is computed on a daily and shift basis — our payroll system needs this information daily. We post weavers' and loomfixers' efficiency daily."

"We post production percentages in the weave room — weavers and supervisors keep close check on these production figures."

"We use pick-counter readings to pinpoint low efficiency looms and, occasionally, to check a complete weave room."

Greater efficiency control is yours when you install Veeder-Root Pick Counters — available for countrolling single, two, three or four shifts. Count on Veeder-Root to help you boost your weave room efficiency. Just call your nearby Veeder-Root Representative.

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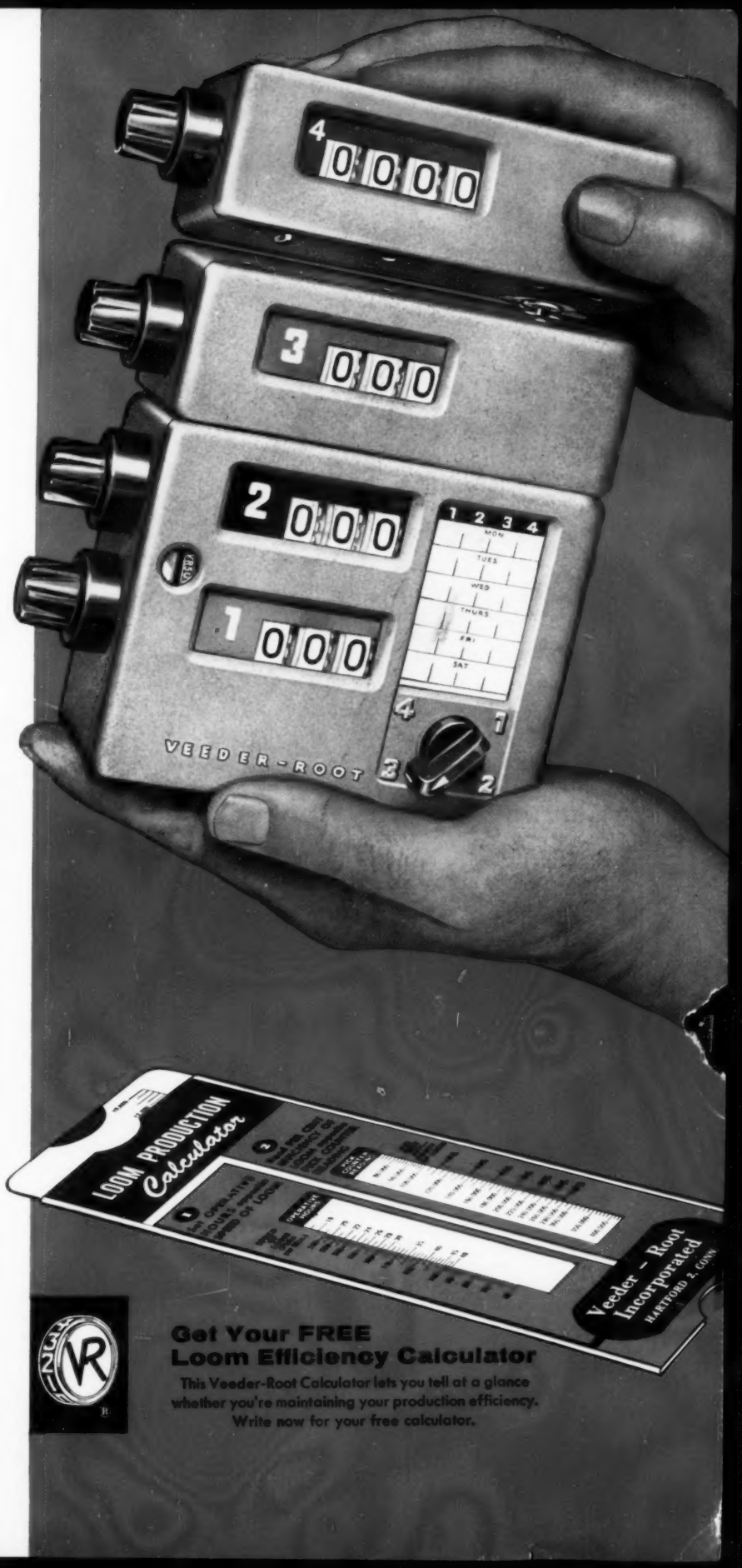

Get Your FREE Loom Efficiency Calculator

This Veeder-Root Calculator lets you tell at a glance whether you're maintaining your production efficiency. Write now for your free calculator.

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THE REAL COST OF STRIPPING AGENTS CAN ONLY BE CALCULATED BY COMPARING THE AMOUNT OF WORK THEY DO PER DOLLAR OF COST, AND ON THIS BASIS PAROLITE* PRESENTS ONE OF THE BEST BUYS IN THE TEXTILE BUSINESS!

*Normal Zinc-Sulphoxylate Formaldehyde

VERSATILE...PAROLITE will accomplish virtually all of your stripping of wool and synthetics.

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